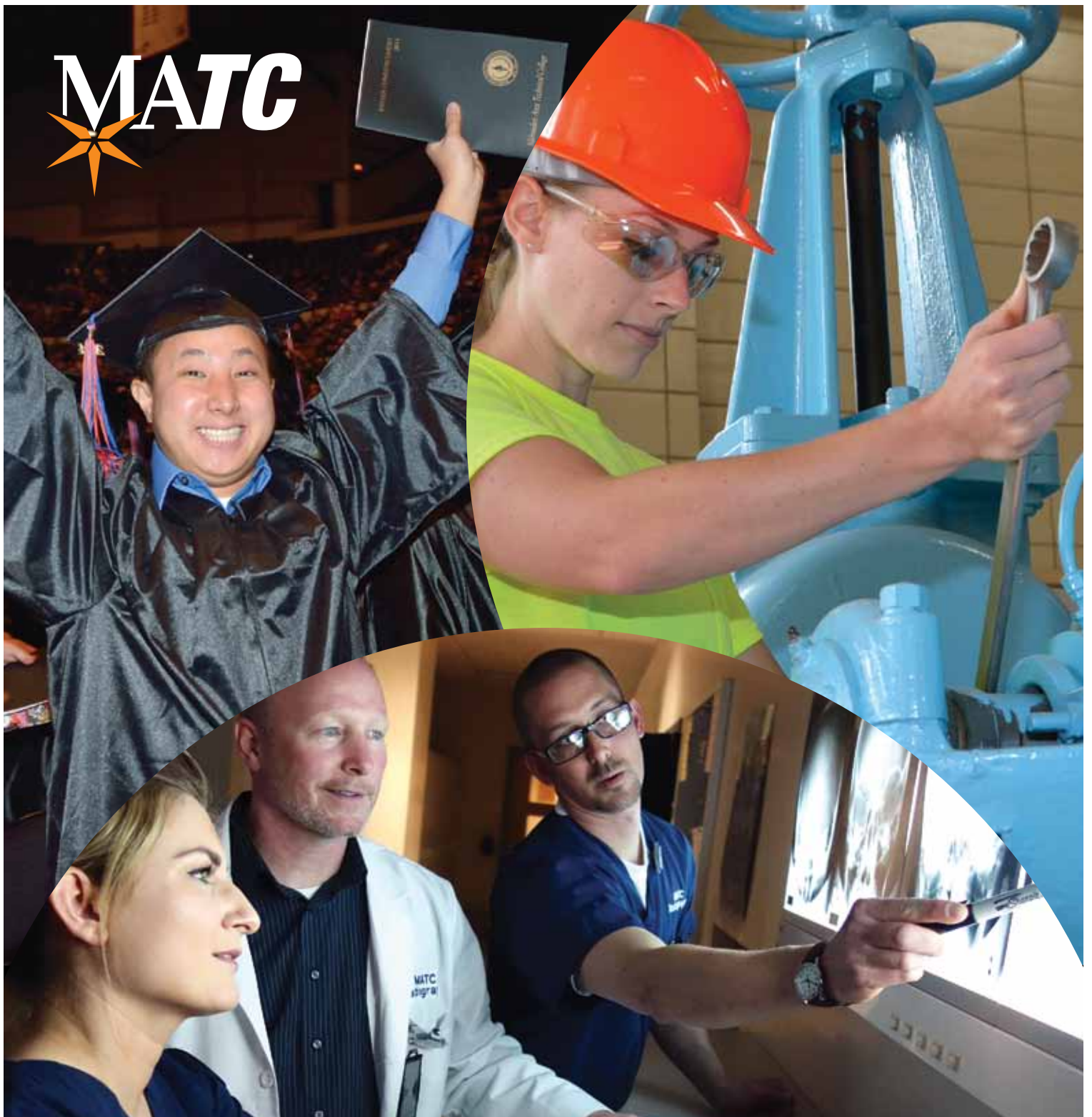




milwaukee area technical college 2015-16 catalog | matc.edu

MESSAGE FROM DR. VICKI J. MARTIN, PRESIDENT

Pathways to Your Career Goals Begin at MATC

Milwaukee Area Technical College offers the academic programs and student services that lead to achieving your goals, whether you are preparing for a new career, training for industry certification or earning the credits that will build the strong foundation for a bachelor's degree.

MATC offers you:

- More than 200 career-centered programs, including apprenticeships
- Transfer agreements with four-year colleges and universities that make it easy for students to start a bachelor's degree at MATC
- Online, accelerated, weekend, day and evening classes
- Personal attention through small class sizes and comprehensive student services
- Bilingual classes and programs; English as a Second Language courses
- Credit for prior learning and experience
- School of Pre-College Education programs, including GED test services and classes to prepare students for college-level studies
- Employment services for MATC students and graduates through our JOBshop

MATC partners with hundreds of local employers to plan our academic programs and provide internships. This input ensures that students are prepared with in-demand skills and receive hands-on training consistent with industry standards. Our graduates quickly experience success. Within six months of graduation, 85% of MATC graduates are employed or continuing their education at four-year colleges and universities, and MATC has a 97% graduate satisfaction rate.

We serve more than 40,000 students a year at four full-service campuses in downtown Milwaukee, Mequon, Oak Creek and West Allis; plus the Health Education Center at the Downtown Milwaukee Campus and the MATC Education Center at Walker's Square. To accommodate students' busy schedules, some programs are offered entirely online.

Our labs and classrooms provide engaging learning opportunities with the latest technologies. We continue to create innovative and inviting campus environments and recently redesigned several student areas, including the Library and Academic Support Centers at the Downtown Milwaukee Campus. MATC also offers the opportunity to participate in college athletics, and each campus has numerous student clubs and organizations.

As you review this catalog, you will note references to Career Pathways. Career Pathways offer new ways to achieve your education goals. We have developed many of our degrees, diplomas and certificates so that related academic programs are linked in a sequence. Each program in a Career Pathway prepares you for employment in your career field and provides a path to earn the next higher-level credential.



The best way to see why MATC students succeed is to visit us. I invite you to tour one or more of our campuses. You will discover that our exceptional programs and affordable tuition make MATC an outstanding value. Most importantly, you will see how MATC is committed to your success.

A handwritten signature in black ink that reads "Vicki J. Martin". The script is fluid and cursive, with a large, stylized 'V' at the beginning.

Vicki J. Martin, Ph.D.
President

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MATC is accredited by the Higher Learning Commission of the North Central Association,
230 South LaSalle Street, Suite 7-500, Chicago, IL 60604; 800-621-7440.

This catalog was prepared according to information current as of January 31, 2015.
All information is subject to change.

MISSION

As a public, two-year comprehensive technical college, MATC offers exceptional educational and training opportunities and services to our diverse metropolitan area by engaging with partners to advance the quality of life for our students and community.

VISION

MATC is the premier comprehensive technical college that provides excellence in education to enrich, empower and transform lives.

VALUES

Student Success
Accountability
Collaboration
Customer Focus
Diversity
Excellence
Innovation
Integrity



MATC DISTRICT BOARD OF DIRECTORS/ADMINISTRATION/DEANS

The Milwaukee Area Technical College District is governed by a nine-member volunteer Board of Directors.

2014-15 MATC District Board of Directors

Melanie C. Holmes – Chairperson

Retired Vice President, World of Work Solutions, ManpowerGroup

Lauren Baker – Vice Chairperson

Executive Director, Milwaukee Teachers' Education Association

José Pérez – Secretary

Alderman, City of Milwaukee

David A. Dull – Treasurer

President/CEO, Allis Roller, LLC

Abdulhamid Ali

Chairman/CEO, DAAR Engineering, Inc.

Graciela Maizonet

Machine Builder and Repairer, Master Lock Company

Mary Scheibel

Principal/Owner, Trefoil Group, Inc.

Kurt D. Wachholz

Retired Superintendent, School District of West Allis-West Milwaukee

Ann Wilson

Manager, Hillside Family Resource Center

Administration

Vicki J. Martin

President, B.A., University of Wisconsin-Milwaukee; M.A., University of North Dakota; M.S., Cardinal Stritch University; Ph.D., University of Wisconsin – Madison.

Wilma Bonaparte

Vice President, Mequon Campus, B.A., University of Puerto Rico, Rio Piedras; M.Ed., Pennsylvania State University; Ed.D., University of Massachusetts – Boston.

Ellis R. Bromberg

General Manager, Public TV, B.A., State University of New York; M.A., The Ohio State University.

Mohammad Dakwar

Provost, B.S., Winona State University; M.S., Ed.D., Cardinal Stritch University.

Janice M. Falkenberg

Vice President and General Counsel, B.A., University of Minnesota – Duluth; J.D., William Mitchell College of Law.

Mark Felsheim

Vice President, Oak Creek Campus, A.A.S., Madison College; B.S., M.S., Ph.D., University of Wisconsin – Madison.

Trevor Kubatzke

Vice President, Student Services, B.S., University of Wisconsin – Platteville; M.S., Southwest Missouri State University; Ph.D., Walden University.

Christine M. Manion

Director, Strategic Planning, Institutional Effectiveness and Accreditation, B.A., St. Norbert College; M.A., Ph.D., Marquette University.

Christine M. McGee

Director of Fundraising and Development, A.A., University of Wisconsin-Stevens Point.

Al Pinckney

Vice President, West Allis Campus, A.S., Community College of the Air Force; A.S., Los Angeles Community College; B.S., Eastern Michigan University; M.S., Central Michigan University.

Cheralyn Randall

Director, Grants and Resource Development, B.A., Concordia University Wisconsin; M.S., Marquette University; Certified Grant Writer, American Grant Writer's Association.

Al Shoreibah

Vice President, Finance, B.A., University of Florida – Gainesville; M.B.A., University of Illinois – Urbana; Certified Public Accountant.

Michael Walsh

Associate Vice President, Information Technology, B.F.A., Wittenberg University; M.F.A., Cranbrook Academy of Art.

Academic Deans

Sadique Isahaku

Dean, School of Liberal Arts and Sciences, B. Sc., Ahmadu Bello University, Zaria, Nigeria; B.A., M.Phil., University of Tromsø, Norway; Ph.D., Norwegian University of Science & Technology, Trondheim, Norway.

Dessie R. Levy

Dean, School of Health Sciences, Diploma, Deaconess School of Nursing; BSN, Marian College; M.S., Ph.D., Cardinal Stritch University; Registered Nurse.

Gloria Pitchford-Nicholas

Dean, School of Pre-College Education, B.B.A., University of Wisconsin – Milwaukee; M.S., Cardinal Stritch University.

Roy Vargas

Interim Dean, School of Business and School of Media and Creative Arts, B.S., University of Costa Rica; M.B.A., Ph.D., University of Wisconsin – Milwaukee.

Dorothy L. Walker

Interim Dean, School of Technology and Applied Sciences, A.A.S., Milwaukee Area Technical College; B.S., University of Wisconsin – Stout.

For a listing of MATC faculty, additional administration and staff, visit: matc.edu/about/human_resources/upload/MATC-Credential-Information-Directory.pdf

CONTACT INFORMATION/LOCATIONS

Contact Numbers for Each MATC School

School of Business

414-297-6395

School of Health Sciences

414-297-6263

School of Liberal Arts and Sciences

414-297-6584

School of Media and Creative Arts

414-297-6433

School of Pre-College Education

414-297-7471

School of Technology and Applied Sciences

414-297-6315

For a full listing of phone numbers: matc.edu/about/Contact_Us.cfm

CAMPUS LOCATIONS

Downtown Milwaukee Campus

700 West State Street

414-297-MATC

Mequon Campus

5555 West Highland Road

262-238-2200

Oak Creek Campus

6665 South Howell Avenue

414-571-4500

West Allis Campus

1200 South 71st Street

414-456-5500



Education Centers:

Downtown Milwaukee Campus Health Education Center,
1311 North Sixth Street.

MATC Education Center at Walker's Square,
816 West National Avenue, Milwaukee.

You can also check out the MATC Virtual Campus link
on matc.edu/academic_programs/index.cfm

Social Media



facebook.com/MilwAreaTechCollege



twitter.com/DiscoverMATC



instagram.com/discovermatc



youtube.com/user/InsideMATC



linkedin.com/company/matc

ASSOCIATE DEGREES, TECHNICAL DIPLOMAS AND CERTIFICATES

WITH MORE THAN 200 PROGRAMS, MATC HAS THE PATHWAY TO YOUR CAREER GOALS

ASSOCIATE IN ARTS (A.A.), ASSOCIATE IN SCIENCE (A.S.) and ASSOCIATE IN APPLIED SCIENCE DEGREES (A.A.S.)

- A Accounting (10-101-1), **B**
Administrative Professional (10-106-6), **B**
Administrative Professional – Accelerated (10-106-6.AA), **B**
Air Conditioning and Refrigeration Technology (10-601-1), **T**
Anesthesia Technology (10-541-1), **H**
Animation (10-207-1), **M**
Architectural Technology (10-614-1), **T**
Associate in Arts (20-800-1), **L**
Associate in Arts – Online Accelerated (20-800-1.AA), **L**
Associate in Arts: Educational Foundations Track (20-800-1.CU), **L**
Associate in Science (20-800-2), **L**
Associate in Science: Biotechnology Track (20-800-2.B), **L**
Associate in Science: Chemical Technology Track (20-800-2.C), **L**
Audio Production (10-701-4), **M**
Automotive Technology – Comprehensive (10-602-6), **T**
- B Baking and Pastry Arts (10-314-1), **B**
Banking and Financial Services (10-114-3), **B**
Biomedical Electronics Technology (10-605-6), **T**
Business Management (10-102-3), **B**
- C Cardiovascular Technology (10-521-1), **H**
Chemical Technician (10-603-1), **L**
Civil Engineering Technology (10-607-1), **T**
Computer Electronics Technology (10-605-3), **T**
Computer Simulation and Gaming (10-153-1), **M**
Creative Advertising Strategist (10-201-4), **M**
Criminal Justice – Law Enforcement (10-504-1), **T**
Culinary Arts (10-316-1), **B**
Culinary Management (10-317-1), **B**
- D Dental Hygiene (10-508-1), **H**
Dietetic Technician (10-313-1), **H**
- E Early Childhood Education (10-307-1), **L**
eBusiness Technology Analyst (10-135-3), **B**
Electronic Engineering Technology (10-605-7), **T**
Electronic Technology (10-605-1), **T**
Environmental Health and Water Quality Technology (10-506-1), **B**
eProduction (10-701-3), **M**
- F Fashion/Retail Marketing (10-104-4), **B**
Fire Protection Technician (10-503-2), **T**
Food Science Technology (10-623-4), **B**
Funeral Service (10-528-1), **H**
- G Graphic Design (10-201-1), **M**
- H Health Information Technology (10-530-1), **H**
Healthcare Services Management (10-530-3), **H**
Hotel/Hospitality Management (10-109-1), **B**
Human Resources (10-116-1), **B**
Human Service Associate (10-520-3), **L**
- I Individualized Technical Studies (10-825-1), **B,H,L,M,T**
Interactive Media (10-206-3), **M**
Interior Design (10-304-1), **T**
Interpreter Technician (10-533-2), **L**
IT Computer Support Specialist (10-154-3), **B**
IT Information Systems Security Specialist (10-150-4), **B**
IT Information Systems Security Specialist – Accelerated (10-150-4.AA), **B**
IT Mobile Application Developer (10-152-8), **B**
IT Network Specialist (10-150-2), **B**
IT Network Specialist – Accelerated (10-150-2.AA), **B**

- IT Web and Software Developer (10-152-7), **B**
- L Landscape Horticulture (10-001-4), **T**
Legal Administrative Professional – Accelerated (10-106-3.AA), **B**
- M Marketing Management (10-104-3), **B**
Marketing Management – Online Accelerated (10-104-3.AA), **B**
Mechanical Design Technology (10-606-1), **T**
Medical Administrative Specialist (10-106-4), **B**
Medical Laboratory Technician (10-513-1), **H**
Meeting and Event Management (10-109-6), **B**
Mobile Designer (10-206-6), **M**
Music Occupations (10-805-1), **M**
- O Occupational Therapy Assistant (10-514-1), **H**
- P Paralegal (10-110-1), **B**
Photography (10-203-1), **M**
Physical Therapist Assistant (10-524-1), **H**
Practical Nursing LPN-RN Educational Progression (10-543-10), **H**
- Q Quality Engineering Technology (10-623-9), **T**
- R Radiography (10-526-1), **H**
Real Estate (10-194-1), **B**
Registered Nursing/1+1 Practical Nursing Program (10-543-1), **H**
Respiratory Therapist (10-515-1), **H**
- S Social Media Specialist (10-151-1), **B**
Supervisory Management – Accelerated (10-196-1.AA), **B**
Supply Chain Management (10-182-1), **B**
Surgical Technology (10-512-1), **H**
Sustainable Facilities Operations (10-481-2), **T**
- T Technical Studies: Apprentice (10-499-5), **T**
Television and Video Production (10-701-1), **M**
- W Welding Technology (10-621-1), **T**

TECHNICAL DIPLOMAS

- A Accounting Assistant (31-101-1), **B**
Advertising Specialist (31-104-1), **B**
(formerly Advertising Management)
Aesthetician (31-502-2), **B**
Appliance Technician (31-445-1), **T**
Architectural Woodworking/Cabinetmaking (31-409-1), **T**
Audio Engineer (30-701-1), **M**
Auto Collision Repair and Finish Technician (31-405-1), **T**
Automotive Maintenance Technician (31-404-3), **T**
Aviation Technician – Airframe (31-402-2), **T**
Aviation Technician – Powerplant (31-402-3), **T**
- B Baking Production (31-314-2), **B**
Barber (31-502-5), **B**
Bilingual Office Assistant (31-106-6), **B**
Bricklaying (30-408-2), **T**
Business Management (31-102-3), **B**
- C Carpentry (31-410-1), **T**
Child Care Services (31-307-1), **L**
Computer Numerical Control (CNC) Machine Operator/Programmer (31-444-1), **T**
Cosmetology (31-502-1), **B**
Culinary Assistant (31-316-1), **B**
- D Dental Assistant (30-508-2), **H**
Dental Technician (30-507-1), **H**
Diesel and Powertrain Servicing (31-412-3), **T**
Digital Forensics Analyst (31-150-1), **B**
Digital Imaging (30-203-1), **M**

OFFERED AT MILWAUKEE AREA TECHNICAL COLLEGE, 2015-16

- E** eBusiness Strategist (30-135-3), **B**
Electrical Power Distribution/Line Mechanic (31-413-2), **T**
Electricity (31-413-1), **T**
Emergency Medical Technician (30-531-3), **T**
Emergency Medical Technician – Advanced (30-531-6), **T**
Entrepreneurship (31-145-2), **B**
- F** Fashion Marketing Specialist (30-104-4), **B**
Financial Services (31-114-3), **B**
Food and Beverage Management (31-317-2), **B**
Food Manufacturing and Processing Technician (31-623-1), **B**
Food Service Assistant (30-316-1), **B**
Food Service Team Leader (30-317-2), **B**
- H** Health Unit Coordinator (30-510-2), **H**
- I** IT Networking and Infrastructure Administration (31-150-2), **B**
- M** Machine Tool Operations:
- CNC Swiss Turning Center Setup and Operation (31-420-1.A), **T**
- CNC Machine Setup and Operation (31-420-1.B), **T**
Marketing Management (31-104-4), **B**
Marketing Specialist (30-104-9), **B**
Mechanical and Computer Drafting (31-421-2), **T**
Medical Assistant (31-509-1), **H**
Medical Billing (31-106-5), **B**
Medical Coding Specialist (31-530-2), **H**
Medical Interpreter (30-538-1), **H**
Mobile Application Designer (31-206-2), **M**
- N** Nursing Assistant (30-543-1), **H**
- O** Office Technology Assistant (31-106-1), **B**
Optician – Vision Care (31-516-3), **H**
- P** Paralegal Post-Baccalaureate (30-110-1), **B**
Paramedic Technician (31-531-2), **T**
Pharmacy Technician (31-536-1), **H**
Phlebotomy (30-513-1), **H**
Power Engineering and Boiler Operator (30-428-1), **T**
Practical Nursing: See Registered Nursing Degree, **H**
Preparatory Plumbing (30-427-1), **T**
- R** Refrigeration, Air Conditioning and Heating Service Technician (31-401-1), **T**
Renal Dialysis Technician (31-517-1), **H**
Retail Marketing Specialist (30-104-2), **B**
- S** Sales Specialist (30-104-7), **B**
(formerly Sales Management)
Social Media Strategist (30-135-1), **B**
Special Event Management (31-109-2), **B**
Supply Management (30-182-1), **B**
- T** Tool and Die Making (32-439-1), **T**
Transportation – Logistics (30-182-2), **B**
Truck Driving (30-458-1), **T**
TV/Video Field Production Assistant (31-701-1), **M**
TV/Video Studio Production Assistant (31-701-2), **M**
- U** Unity Developer (31-153-1), **M**
- W** Web Designer (31-206-1), **M**
Welding (31-442-1), **T**

CERTIFICATE PROGRAMS

3D Solid Modeling, **T**

- A** Accounting Bookkeeper Trainee, **B**
Advanced Television Post-Production, **M**

- AODA Substance Abuse Counselor, **L**
Arboriculture, **T**
- B** Barber/Cosmetologist Instructor, **B**
Barber/Cosmetologist Manager, **B**
Basic Electronics (Computer Multimedia Lab), **T**
Basic Electronics (Core Curriculum), **T**
Biotechnology, **L**
Boiler Operator, **T**
Business Management Trainee, **B**
- C** Cisco Internetworking (CCNA), **B**
- D** Dietary Manager, **H**
- E** Electrical Construction, **T**
Energy Engineering Technology, **T**
Energy Modeling, **T**
Entrepreneurship, **B**
- F** Financial Services Trainee, **B**
- G** Greenhouse Plant Production, **T**
- H** Healthcare Customer Service, **H**
- I** Industrial Electronics and Controls, **T**
Information Security Fundamentals, **B**
Infrastructure Security, **B**
IT/ Advanced Technical Support, **B**
IT/ Level 2 – Service Center Technician, **B**
IT/ Microsoft Enterprise Desktop Support, **B**
IT/ Service Center Technician, **B**
IT Security Auditing, **B**
- L** Land Surveying, **T**
Landscape Design Technology – CAD, **T**
Law Enforcement, **T**
Lean, **T**
Lodging and Hospitality Assistant, **B**
- M** Metallurgical Technician, **T**
- N** Nail Technician, **B**
Native Landscape Plants, **T**
- P** Plant Health Care, **T**
Preschool, **L**
- S** Six Sigma Black Belt, **T**
Six Sigma Green Belt, **T**
Supervisory Management, **B**
Sustainable Facilities Operations, **T**
System Administration and Security, **B**
- W** Water Technician, **B**

In this catalog, the degree, diploma and certificate programs are organized alphabetically within each academic school section. The bold letter refers to the MATC academic school:

- B** School of Business, pages 30-95
- H** School of Health Sciences, pages 96-123
- L** School of Liberal Arts and Sciences, pages 124-136
- M** School of Media and Creative Arts, pages 137-156
- T** School of Technology and Applied Sciences, pages 157-201

Degree and diploma programs are listed with their program codes in parentheses.

WELCOME/ADMISSIONS/ENTRANCE REQUIREMENTS

Your Best Resource for Career and Personal Success

MATC has an annual enrollment of approximately 40,000 students. The college opened in 1912 and has a rich history of preparing students for a wide range of careers.

Choose from more than 200 programs

MATC has six academic schools. Here is an overview:

- **School of Business** – Includes culinary arts, entrepreneurship, information technology, marketing, food science technology, cosmetology and barber programs
- **School of Health Sciences** – Includes programs in dental hygiene, registered nursing, pharmacy technician, and the region's only funeral service program
- **School of Liberal Arts and Sciences** – Students can earn the first two years of a bachelor's degree at MATC and transfer to four-year colleges and universities
- **School of Media and Creative Arts** – Prepare for innovative careers such as animation, computer simulation and gaming, photography, and television and video production
- **School of Pre-College Education** – Includes GED and HSED, English as a Second Language, Bilingual and Adult High School programs
- **School of Technology and Applied Sciences** – Hands-on learning is prevalent in programs such as electronic engineering, sustainable facilities operation, horticulture, construction and automotive technology



MATC offers:

- Convenient class times including evenings and weekends
- Hundreds of online classes to make it easier to fit classes into your schedule; some degree, diploma and certificate programs can be completed entirely online
- Accelerated programs that make it possible to complete an associate degree by attending evening classes year-round
- Four-year college/university transfer agreements, which include University of Wisconsin System universities, Historically Black Colleges and Universities nationwide, and most local private colleges/universities
- Scholarships through MATC Foundation, Inc.; students apply online at matc.academicworks.com

We are committed to your success

MATC's student services help you reach academic and career goals, and include bilingual services and programs, tutoring, academic advising, career counseling and employment services.

ADMISSIONS

Getting Started

You can visit the Welcome Center at any MATC campus as your starting point. The Downtown Milwaukee Campus services include computer stations for completing applications for admissions, registration and financial aid. Our Student Services staff provides personal assistance at each Welcome Center. Information is also available at matc.edu. For the admissions application deadlines, see matc.edu/student/Admissions/index.cfm.

If you plan to earn a degree or diploma from MATC or intend to receive financial aid, you must complete the admission process and be admitted to a degree or diploma program before the start of the semester. To research your program options, see the descriptions of degrees and technical diplomas in this catalog, or visit matc.edu.

If you want to take courses but are not interested in receiving a degree or diploma, it is not necessary to complete the admission process. You can register for classes in person at any of the four MATC campuses. Current students can register online through INFOnline at matc.edu.

Whether or not you are admitted to a degree or diploma program, you must register for the classes you wish to take.

Enrollment is completed when you have paid for your classes and attend them.

**The Fall semester starts in late August,
the Spring semester starts in late January.**

Credit for Prior Learning and Experience (CPL)

MATC recognizes that you may have gained college-level learning on your own, through work, community experience or individual study. Credit for Prior Learning and Experience (CPL) is a way to earn credit for specific MATC courses based on skills learned as part of your job, professional licenses, certificates, apprenticeships, and courses taken

ADMISSIONS/ENTRANCE REQUIREMENTS/HOW TO REGISTER

at the workplace; through corporations, military training, professional associations or unions; or through specialized training programs that have been evaluated for college credit. To learn more about earning credit for your prior knowledge, refer to the MATC website (matc.edu/student/resources/cple/index.cfm) or email cple@matc.edu.

ENTRANCE REQUIREMENTS FOR PROGRAM STUDENTS

A high school diploma or GED equivalency certificate is required before entrance to an MATC associate degree or technical diploma program, unless otherwise indicated.

Each academic program includes courses that require a minimum level of proficiency in reading, writing and math. If you lack proficiency in any of these areas, you may be advised to take refresher courses. Upon attainment of high school requirements or successful completion of refresher courses, notify the Admissions office to update your admission status.

Some courses within degree programs may also require specific high school requirements. If you lack these course requirements, you may fulfill them either through our Adult High School (see the School of Pre-College Education section in this catalog or at matc.edu), or our School of Liberal Arts and Sciences.

Readmission

If you were not continuously enrolled in your program (excluding summers) you must apply for readmission by completing a program readmission form. Notify the nearest MATC campus Admissions office by mail, phone, or by visiting matc.edu.

If the program you are reapplying to has a waiting list, the instructional department will determine if you can be readmitted directly to a segment of the program or must be placed on the waiting list.

The graduation requirements in effect at the time of your readmission will be used to determine your eligibility for graduation.

Course Placement Assessments

During the MATC admissions process, you will be asked to take an assessment to make sure you have the skills and knowledge needed to succeed in the degree or diploma program you have chosen. Many of the college's programs require that students meet basic-skills-level requirements in reading, writing and mathematics before being accepted into a program.

After completing the assessment, MATC will provide you a letter notifying you of the next steps in reviewing your assessment and registering for classes based on the review.

If you are coming to MATC to develop your basic academic skills, obtain a GED/HSED, or enroll in our Adult High School, you will also be asked to take course placement assessments.

If you have a disability and require special accommodations, please call 414-297-7839 or 414-297-6986 (TDD).

Basic skills assessment is also available at community-based organizations (CBOs) in the metro-Milwaukee area. For CBO locations, call 414-297-6967.

Unconditional Acceptance

If you meet all requirements, you will be fully admitted into the degree or diploma program of your choice unless a waiting list exists or it is a petition program.

Conditional Acceptance

If you need courses to qualify for programs or if your placement scores do not meet program requirements, you may be conditionally admitted. You will be advised to follow an appropriate sequence of courses.

Waiting Lists

Waiting lists are established when the number of applications for a program exceeds the student capacity of the program. Applicants are then placed on the waiting list by the date their application process is completed. Students are removed from this list as openings occur. Only applicants who meet the academic admissions requirements will be added to the waiting list.

Students are informed during the admissions process if a program has a waiting list. While waiting to take core courses, program students may enroll in the program's specified General Studies courses and electives.

Petition Process

Most School of Health Sciences degree and diploma programs use a petition process for entry. Petitioning requires you to complete the petition application during the petition window dates. Additional instructions are provided throughout the process.

The petitioning process is specific to each individual program. Detailed instructions on how to complete the petitioning process for a program are available online. See matc.edu and visit the program's web page to view the petition process.

Criminal Background Check

The Wisconsin Caregiver Law requires MATC to check your criminal background if you are applying to an MATC program that has this requirement. All health programs require this prior to admittance to the program. Biomedical Electronics Technology, Early Childhood Education, Emergency Medical Technician, Interpreter Technician and the Educational Foundations Teacher Education programs are examples of programs that require this check after admission to the program as part of a course requirement. For information regarding a criminal background check, see the program's web page on matc.edu.

Healthcare facilities and many service facilities are required by Wisconsin law to conduct criminal background checks. As a future provider of patient care services, child care/human

ADMISSIONS/ENTRANCE REQUIREMENTS/HOW TO REGISTER

services, or nutrition care services, you will be required to fulfill the criminal background check requirements prior to your participation in patient contact, or in clinical courses at facilities. For more information, call 414-297-7498, or visit the Wisconsin Department of Health and Family Services website, dhfs.wisconsin.gov/caregiver/index.htm

How to Apply for Admission to a Program

Go to matc.edu.

Click on Student Services; and under Get Started, click on Start a Degree or Diploma.

Pay the \$30 nonrefundable application fee.

Make your check or money order payable to MATC. You can also pay by credit card if you apply online.

Submit transcripts.

Bring official high school transcripts, or GED, or college transcripts to the Welcome Center, or mail them to the MATC Admissions office. Transcript request forms for you to complete and mail are available at matc.edu.

- Home-schooled applicants should provide a copy of the PI-1206 form with detailed high school transcript
- Out-of-country transcripts must be translated and evaluated by an approved agency

If you need financial aid

Apply as early as possible. Apply for financial aid online at fafsa.ed.gov. **The MATC financial aid college code is 003866.** See the Financial Aid section of this catalog or matc.edu.

Schedule a Testing Session

A test is administered to gauge your readiness for college-level studies. This course placement assessment may be waived if your college transcripts show you have completed 12 or more college credits with acceptable grades. The test may also be waived if you achieved minimum scores on the ACT test.

- You will get a letter notifying you how to schedule a testing session
- See Student Services at matc.edu for links to sample test questions
- Testing accommodations will be made for students with disabilities

Complete the Online Orientation

- You will be introduced to essential student services and resources
- You will receive a letter notifying you of how to access the orientation

When you have completed the online orientation and the admission process, you may register for classes.

REGISTER AND PAY TUITION & FEES

How to Register

Registration is the process of signing up for classes. The procedure depends upon whether you are a new or continuing student in a degree or diploma program, or are taking classes but not pursuing a diploma or degree.

You may register in person at any of the four MATC campuses. Continuing students may also register online through INFOOnline at matc.edu.

If you intend to pursue a degree or diploma,

you must first complete the admission steps listed previously or follow the steps to enrollment at matc.edu.

When you have completed the admission process, MATC will notify you by mail of admission status and provide information regarding the next steps necessary in the process.

If you're already enrolled in a degree or diploma program, you can register for classes for the next semester. Shortly after midterm of the current semester, you will be notified to meet with an advisor who will assist you in selecting courses and provide you with additional registration instructions.

If you're continuing in a program but have not been active for a semester or longer, contact the Admissions office at 414-297-6542. You will need to be readmitted to the program.

If you are not pursuing a degree or diploma,

you may register for classes without following the admission process. See the class schedule at the INFOOnline link at matc.edu.

You are not officially enrolled and cannot attend classes until all requirements for registration have been completed, including payment of fees. You may pay in person at any campus or online through INFOOnline.

INFOOnline

INFOOnline at matc.edu allows you to:

- Search for available current class listings
- Register for classes online
- Obtain your financial aid status
- View your class schedule and cumulative GPA
- Review and print your unofficial transcript
- View your semester grades

Prospective students or students who do not have a login user ID may call 414-297-7900 to enter the required information. Once your information is entered, you will be able to register online. This service is available during MATC's regular working hours only.

ADMISSIONS/ENTRANCE REQUIREMENTS/HOW TO REGISTER

Fees and Tuition

Fees for most courses are set by the Wisconsin Technical College System Board and may change each semester. View current fees at matc.edu/student/Admissions/fees.cfm. Fees and tuition are subject to change.

Course Changes

Adding courses

You may add courses up to the end of the first week of classes in a given semester (some restrictions apply). If the course is shorter than the 15- or 16-week semester, you may add courses until the first day of class. Instructor approval is required after classes have begun. You will need to obtain a Course Change form from any campus Registration office. Submit your completed form to the Registration office.

Dropping courses

When you no longer wish to be enrolled in a class, you must officially drop the class within the timeframe specified in the Student Initiated Withdrawal Procedure located on the back of your student schedule.

If you register for a class after the class begins and fail to officially drop it, you are still responsible for the course fee.

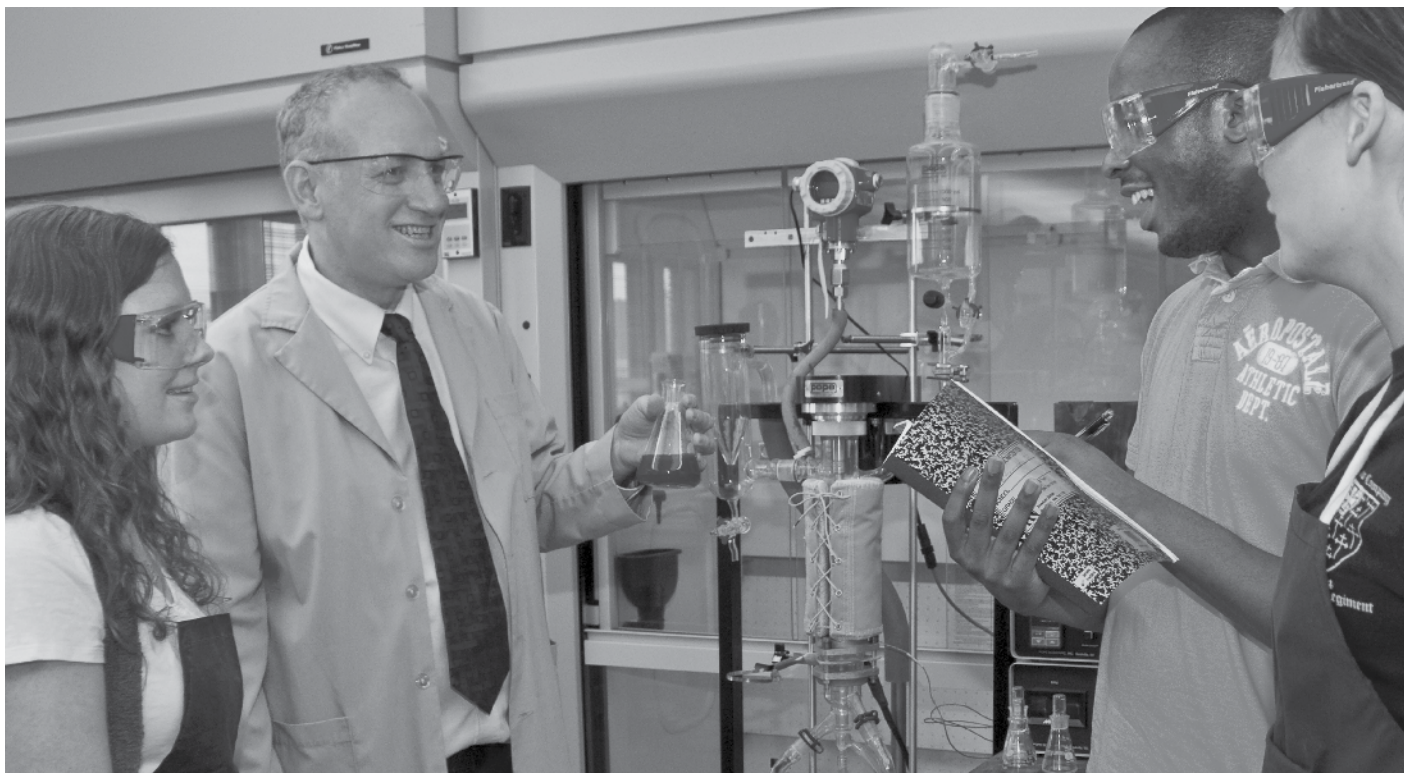
To officially drop a class, use INFOOnline or obtain a Course Change form from any campus Registration office, then submit your completed form to the Registration office. Keep the student copy for your records.

Repeating continuing education courses

If more people register for a continuing education course than can be accommodated, students who have completed the objectives of the course previously may not reregister until new applicants have had a chance to enroll.

Cancellation of classes

The college reserves the right to cancel a class in cases of insufficient enrollment or budgetary constraints, and to close registrations for a class section that has reached its capacity. Course times, locations and instructors are subject to change without notice.



2015-16 FINANCIAL AID INFORMATION

If you plan to attend MATC during the 2015-16 school year, complete the Free Application for Federal Student Aid (FAFSA) at fafsa.ed.gov.

Apply now!

MATC encourages students to apply for financial aid and have a processed FAFSA before the priority deadline of June 1, 2015.

STEP ONE:

Gather All Required Information

Collect your signed 2014 Federal Tax Return, W-2s from each job worked in 2014, and untaxed income received.

You will also need your parents' 2014 Federal Tax Returns and income information if you are a dependent student born after January 1, 1992, single, no dependents and not a veteran.

Students and parents are encouraged to use the IRS Tax Retrieval Tool when submitting the FAFSA.

STEP TWO:

Complete Your FAFSA at fafsa.ed.gov

Click on "Fill Out Your FAFSA" and select 2015-16 FAFSA. The MATC Federal School Code is **003866**.

STEP THREE:

Sign the FAFSA

At the end of the application, you (and your parent, if you are a dependent student) must agree to the FAFSA certification statement and sign your application.

You can sign your application electronically using a Federal Student Aid Personal Identification Number (PIN). You and your parent, if you are a dependent student, will both need your own individual PINs to sign.

If you need a PIN, apply at pin.ed.gov. To apply for a PIN while in the FAFSA application, select the Apply for a PIN button. Beginning April 25, 2015, the FAFSA PIN will be replaced with a user ID and password.

STEP FOUR:

View Your SAR Report

You will receive an electronic or paper Student Aid Report (SAR) from the federal student aid processor.

The SAR will be sent via email if you listed an email address while completing your FAFSA. Review the SAR carefully and make sure the information is correct. If you see incorrect information, contact the MATC Financial Aid office for assistance.

Important Information for Financial Aid Eligibility

You must be admitted to an MATC degree or diploma program before the admission application deadline.

- Your academic status must be one of the following: good, warning, or probation with financial aid.
- You will not receive MATC financial aid for the 2015-16 school year until your 2015-16 FAFSA has been processed and the information from the U.S. Department of Education has been received by the MATC Financial Aid office.
- Submit all forms and documents requested by the MATC Financial Aid office as soon as possible.
- You will receive an email from MATC informing you of the financial aid that you have been awarded.
- It is your responsibility to read all MATC student emails and information that you receive from the MATC Financial Aid office.
- It is also your responsibility to update your postal mailing address and email address with MATC and the U.S. Department of Education.
- If you withdraw or if your instructors withdraw you from all of your courses prior to 60% of the semester being completed, you will owe a portion of your financial aid back.

- If you do not attend a course that was included in your financial aid enrollment status, your financial aid will be adjusted and you may have to repay a portion of your financial aid.

The 150% Rule

- You are not eligible for financial aid if you have reached the 150% rule, meaning that you may attempt no more than 150% of the number of credits needed to graduate from your academic program of study.
- All of your attempted credits, transfer credits, and credits you paid on your own apply toward the 150% rule.
- If you change programs, all of your attempted credits apply toward the 150% rule in your new program of study.

Pell Grant – 12 Full-Time Semesters Limit

The Consolidated Appropriations Act of 2012 reduces the duration of a student's Pell Grant eligibility to a 12-semester lifetime limit. Students who have received Pell Grant funds for the equivalent of 12 full-time semesters will not be eligible to receive this grant for future semesters. Full-time enrollment is defined as 12 or more credits per semester.

FINANCIAL AID INFORMATION

MATC FOUNDATION SCHOLARSHIPS

Repeated Coursework

Federal regulations limit the number of times a student may repeat a course and receive financial aid for that course:

- A student may receive aid to repeat a previously passed course one additional time.
- A student may receive aid when repeating a course that was previously failed, regardless of the number of times the course was attempted and failed.
- If a student retakes a course that is not aid eligible, a recalculation of aid is done to exclude the credits for the repeated course. If a balance is due after the recalculation, the student must make payment in order to retain the course.
- This rule applies whether or not the student received aid for earlier enrollments in the course.

Eligibility for Loans and State Grants

You must be enrolled in at least six credit hours, prior to the financial aid census date, to be eligible to receive a loan and state grants.

For your loan to be processed, you must complete the online loan counseling and sign an online master promissory note at studentloans.gov.

The financial aid date, census date, and other important dates are listed at matc.edu. Click on Student Services, Financial Aid, Dates of Importance.

Deferments for Course Fees or Books

As a student receiving financial aid, you may be eligible for a deferment to cover the cost of books, fees, required uniforms or tools until your financial aid funds are available. You must obtain approval from the Financial Aid office and sign a promissory note agreeing to pay these costs by the date indicated on the promissory note. Only those students who have had a federal Student Aid Report processed may be eligible for a course fee deferment without a down payment.

Agency- or Employer-Sponsored Students

The college will work in cooperation with agencies and/or employers that intend to pay your expenses. The agency or employer must submit a written agreement to the campus office, detailing which expenses will be paid. Following your enrollment, MATC will bill your sponsor for actual expenses only. If you are a sponsored student, counselors are available to assist you in planning your academic program. If you believe you may be eligible for sponsorship by the Wisconsin Division of Vocational Rehabilitation (DVR), contact one of the local offices in Milwaukee.

Contact the MATC Financial Aid Office

Visit the Financial Aid office, Room S101, at the Downtown Milwaukee Campus or the Welcome Center at the Mequon, Oak Creek or West Allis campuses. Phone: 414-297-6282; email: finaid@matc.edu.

Workforce Investment Starts Here



MATC FOUNDATION SCHOLARSHIPS

The MATC Foundation, Inc., administers a wide range of funds established to support the educational and developmental goals of the college and its students. Through the generosity of its donors, the foundation awards scholarships to students in all MATC academic divisions. Additionally, the foundation raises money to support the college's programs.

Scholarships are available to qualified applicants for educational and related needs including tuition, technical and professional equipment, textbooks, transportation, child care, continuing education and emergency grants.

Apply for scholarships at: matc.academicworks.com

The MATC Foundation utilizes a comprehensive online scholarship management program that helps match students to scholarships for which they may be qualified. The system uses information gathered directly from a student's school records, coupled with an online scholarship application. Everything is done online, with no forms to download or print.

Not all applicants receive a scholarship. It is a competitive process, and applicants are strongly encouraged to provide thoughtful and complete answers to the essay questions on the application.

Scholarships are available only because of the generosity of our donors. Therefore, all scholarship recipients are required to write a thank you letter to the donor.

For more information about scholarships:

Visit matc.edu/foundation/scholarships.cfm.



ACCESS TO STUDENT RECORDS/ACADEMIC REQUIREMENTS

Request for MATC Transcripts

Academic records are kept on permanent file at the Downtown Milwaukee Campus Office of the Registrar. All requests for transcripts must be submitted in writing, in person, by mail or fax. The fax number is 414-297-6371. Telephone requests will not be honored. There is a charge for transcripts. Financial obligations to the college must be cleared before a transcript will be issued.

Include with your transcript request: name when you attended MATC, student ID or Social Security number, birthdate, first and last years of attendance, complete mailing address and appropriate fee. Payment can be made by check, MasterCard/Visa/Discover, or money order. Call 414-297-6416 for an informational recording.

Reviewing Your Academic Record

You have the right to review and inspect your academic record. You can view your unofficial college transcript on INFOnline at matc.edu.

If you believe the record is inaccurate or misleading, you must notify the Registrar in writing what you believe the inaccuracy or misleading statement to be. Within 45 days of the date MATC receives a request for revision, the Registrar will respond to you in writing as to whether or not the record will be amended. If the amendment is not granted, you will be informed of your right to a hearing. Additional information regarding the hearing procedures will also be provided at that time.

If MATC and you agree that the appropriate remedy would be inclusion of a statement in your record commenting on the challenged information, or a statement setting forth reasons for disagreeing with the decision, that may be the action taken with or without a hearing. The statement may be maintained as part of your educational record as long as the contested portion is maintained.

Change of Name or Mailing Address

Name and mailing address changes should be made through INFOnline at matc.edu. If you do not notify MATC of changes, the college will not be responsible if you do not receive information.

Family Educational Rights and Privacy Act (FERPA)

MATC complies with the Family Educational Rights and Privacy Act (FERPA). The purpose of this act is to allow students to know what educational records are kept by the college, to provide students the right to inspect those records and ask for corrections if necessary, and to control the release of such information to those who are not involved in the educational process.

Under the Privacy Act, directory information is made available to anyone who requests it unless you specifically ask that this not be done. To block directory information, the request must be made in the Registrar's office at the Downtown Milwaukee Campus. MATC considers directory information to be only the following: name; major field of study; dates of attendance;

full-time/part-time status; degrees, technical diplomas or certificates awarded; and participation in officially recognized activities and sports.

Under provisions of the Privacy Act, MATC will not respond to inquiries regarding time and/or location of a student's classes. MATC does not provide student or instructor addresses and/or telephone numbers. If you do not want any information released, please contact the Registrar's office to complete the necessary paperwork.

Under FERPA, personally identifiable information in your education record will not be released or disclosed unless you consent to such a release. However, there are exceptions under FERPA that authorize disclosure without your consent.

One exception is disclosure to school officials with legitimate educational interests. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility. Upon request, the college discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

FERPA allows the release of education records without the consent of the student or parents to authorized representatives of the state attorney general's office for law enforcement purposes.

FERPA permits disclosure to an alleged victim of either a crime of violence or of a nonforcible sex offense the final results of any disciplinary action taken against an alleged perpetrator. For more information, call 414-297-6870.

ACADEMIC REQUIREMENTS

Program Plan

Your Program Plan includes academic status, advisor name and location, term, program, cumulative GPA, courses taken and courses yet to take to complete your program. You may obtain your Program Plan through INFOnline at matc.edu.

Honors Program

Honors designation on transcripts enhances prospects for employment, university admission and scholarships. Other benefits of being an Honors student include:

- Coursework to prepare you for bachelor's degree programs
- Interaction with Honors faculty and Honors students
- Greater latitude to pursue special-interest projects for credit
- Participation in national and regional Honors associations and conferences

To participate in the Honors Program, complete an Honors Option contract with your instructor.

Students receive special commendation if they earn a required minimum number of Honors credits, complete the course requirements of their program and attain a 3.5 cumulative grade-point average. For more information, email honors@matc.edu.

ACADEMIC REQUIREMENTS

Attendance

Instructors are required to take attendance. Regularity and punctuality of class attendance are expected. It is the responsibility of instructors to inform you of attendance requirements, and these requirements should be included in each course syllabus. It is your responsibility as a student to discuss absences with your instructors. When an absence occurs, the responsibility for the makeup of the work missed lies with the student.

Instructor Recommended Withdrawal

You may be dropped for absenteeism when:

- Your consecutive absences exceed the number of class meetings per week, or on the third consecutive absence when classes meet once each week.
- Your attendance is sporadic (e.g., you miss seven class periods for a class that meets three periods a week) and you are unable to make up the instruction missed.
- You fail to meet attendance requirements of licensing agencies.
- You pose a safety hazard to yourself or others because of missed instruction critical to safe class or lab performance.
- You are unable to make up instruction missed in a lab/shop class.
- You have not attended class during the first two weeks of the term.

If you have documented health or unusual personal problems affecting your attendance and your instructor agrees that you can make up the work, you may be allowed to continue and may be advised to use MATC support services. However, if your instructor determines you cannot complete the work or you will hinder instruction of other students, you will be withdrawn. To appeal, you must go to the academic dean and request reinstatement. If you are appealing, you may stay in class until the drop is official, unless your presence may cause a safety hazard to yourself or others.

Dropping or Changing Courses

The last day you may voluntarily withdraw from a course is two weeks before the last day of the semester. For summer sessions and quarter sessions, the cutoff date for withdrawal is one week before the end of the session. In extenuating circumstances, the withdrawal cutoff date may be overridden with the approval of both the instructor and the associate dean.

If you do not report for the final examination and you do not formally withdraw or arrange for an incomplete grade, you will be given a U grade for the course.

You are considered enrolled in courses until you officially withdraw. Complete a Course Change form available in the office of the academic dean or the Registration and Records office at any campus, or via INFOnline at matc.edu.

Prerequisites

A prerequisite is the preparation or previous coursework considered necessary for success in a class. Students at MATC must complete the required prerequisites for a class prior to enrolling in the class.

Prerequisites include:

- Courses for which specific prerequisites have been established
- Sequential coursework in a degree program
- Courses in which an equivalent prerequisite exists at another two-year or four-year transfer college or university

Please contact your counselor, advisor or the instructor of the course you wish to enroll in if you have any questions about prerequisites. This should be done before you enroll in the course.

Grading

The grade-point average (GPA) is computed by multiplying the grade-point value of each grade by the credit value for the course. The total grade-point value is divided by the total number of credits attempted, to determine the grade-point average.

Letter grades are given the following grade-point values:

Grade	Grade Point
A	4.00 Superior
A-	3.75
B+	3.25 Above Average
B	3.00
B-	2.75
C+	2.25 Average
C	2.00
C-	1.75
D+	1.25 Below Average
D	1.00
D-	0.75
U	0.00 Unsatisfactory/Failing
P	Pass
I*	Incomplete
W	Withdrawal

(Courses a student withdraws from during the refund period do not appear on transcripts)

CE	Credit by exam or experiential learning
WE	Work experience
AU**	Audit
TE	Transfer Courses

* An Incomplete (I) may be given if you have satisfactorily carried a course until near the end of the semester and have made arrangements to complete the course requirements prior to the end of the following semester. An I that is not removed from your transcript within one semester will become a U for scholarship purposes.

** You may audit a course if you do not want to receive credits or an achievement grade. A student does not receive financial aid for an audited course.

If you are enrolled in continuing education career courses (400-series), you may be issued a certificate at the end of the course. MATC does not issue grades for personal enrichment (600-series, avocational) courses.

STANDARDS OF ACADEMIC SUCCESS AND FINANCIAL AID ELIGIBILITY

The MATC Standards of Academic Success and Financial Aid Eligibility define the requirements students must meet to maintain satisfactory academic progress and financial aid eligibility. They provide students who are having academic difficulties with a framework for knowing when assistance and specific support services are needed to ensure success in meeting their educational goals.

They also establish a formal process to identify, notify and provide assistance to students who fall below required academic standards, as well as provide the appeal process.

The Standards of Academic Success apply to all students enrolled in degree and diploma programs.

MATC calculates students' Academic Status three times each year: after the end of the fall, spring and summer semesters. Grade changes and completion of incomplete grades will be calculated the following semester. This calculation includes:

- Semester Grade-Point Average (GPA) based on coursework completed at MATC during the semester being evaluated
- Cumulative GPA based on all coursework completed at MATC
- Semester course completion rate (percentage of credits completed out of credits attempted at MATC for the semester being evaluated)
- Cumulative course completion rate (percentage of credits completed out of all credits attempted at MATC)

After the calculation, students will be placed on good academic standing, academic warning, academic suspension, academic probation, or academic probation with monitored academic plan. These students are financial aid eligible (Title IV programs) as long as they can complete their academic program within the maximum timeframe of attempted credits.

The maximum timeframe is the period of time that is no longer than 150% of the length of the academic program. For example, the Registered Nursing associate degree program requires 70 credits to graduate. Total credits to graduate (70) multiplied by 150% is 105 in attempted credits. This means that the student must complete the program within the 105 attempted credits to be eligible to receive financial aid. The 105 attempted credits include: all credits transferred to MATC, attempted credits, and completed credits at MATC.

Good Academic Standing

To remain in Good Academic Standing, a student must maintain:

- Minimum 2.0 Semester Grade-Point Average
- Minimum 2.0 Cumulative Grade-Point Average
- Minimum 67% Semester Course Completion Rate (U, W, and I grades are considered as credits attempted but not successfully completed)
- Minimum 67% Cumulative Course Completion Rate (U, W, and I grades are considered as credits attempted but not successfully completed)

Students may be eligible to receive Title IV and state financial aid while on good academic standing.

Academic Warning (Financial Aid Warning)

Students who fail to meet the requirements for Good Academic Standing will have their status changed to Academic Warning and will receive written notification from the Registrar. The number of credits a student may take is not limited.

Students on Academic Warning will return to Good Academic Standing when they meet both semester and cumulative standards. If students do not meet the standards to return to good standing, they will be placed on Academic Suspension.

Students cannot be on Academic Warning consecutively (two or more semesters in a row). Students may not appeal their Academic Warning status.

Academic Suspension (Financial Aid Suspension)

Students on Academic Warning placed on Academic Suspension will be notified by the Registrar of their change in status, the appeal procedures, and the deadlines to file an Academic Appeal for Reinstatement. All appeals must be in writing. The appeals review process includes a determination of financial aid eligibility.

The first time a student is suspended and the appeal is granted, the student will be placed on Academic Probation with or without financial aid.

If a student is suspended two or more times and the appeal is granted, the student will be placed on Academic Probation with Monitored Plan with or without financial aid.

Students whose appeals are denied will be suspended from MATC for one semester. To be considered for reinstatement and financial aid eligibility, students must file an academic appeal by the deadline established by the Academic Appeals Committee.



STANDARDS OF ACADEMIC SUCCESS AND FINANCIAL AID ELIGIBILITY

Academic Probation (Financial Aid Probation)

Students on Academic Probation will be limited to a maximum of six counselor-approved credits. The program counselor will serve as the advisor to students on academic/financial aid probation.

Students will return to Good Academic Standing when they meet both the semester and the cumulative requirements.

Students cannot be on Academic Probation consecutively (two or more semesters in a row).

Academic Probation With Monitored Academic Plan (Financial Aid Probation With Monitored Plan)

As a consequence of failing to meet the requirements to return to Good Academic Standing, students on Academic Probation will be placed on Academic Suspension. Students will need to appeal, and if the appeal process is granted, students will be placed on Academic Probation With Monitored Plan and will be required to follow an academic plan that is developed by their program counselor. The plan will be monitored each semester. Any deviation from the plan will result in suspension.

Students on this status must achieve a 2.0 semester grade-point average and a 100% semester completion rate to remain on this status and avoid returning to Academic and Financial Aid Suspension.

Students will return to Good Academic Standing when they meet both semester and cumulative requirements, as defined by the Standards for Good Academic Standing.

GRADUATION REQUIREMENTS

To graduate from a program, you must complete all program requirements and have a cumulative grade-point average of 2.0 or higher. Associate degree programs and technical diploma programs require that the final 25% of the credits be taken at MATC. For fall graduation, you must apply on or before October 31. For spring graduation, you must apply on or before March 31.

Upon admission to the program, you will be able to print a copy of the most current curriculum requirements for graduation. Graduation requirements are subject to review annually and may be modified. Accommodation of students who are enrolled will be made as needed.

If you were not continuously enrolled in your program (excluding summers) while attending MATC, the current graduation requirements are in effect at the time of your re-enrollment or readmission into the program.

GRADUATE TUITION GUARANTEE

MATC provides a tuition fee exemption for up to six credits to an MATC graduate who is unable to obtain employment within six months of graduation, or in the event the graduate's employer certifies that the graduate lacks entry-level job skills in the related field of study.

The guarantee states:

A graduate of an associate degree program or technical diploma program who is a resident of the state of Wisconsin is exempt from program and material fees established by the board for up to six credits within the same occupational program for which the degree or technical diploma was awarded if the graduate applies for this fee exemption within six months and any of the following conditions apply:

1. Within 90 days after his or her initial employment, the graduate's employer certifies to the MATC District Board that the graduate lacks entry-level job skills and specifies in writing the specific areas in which the graduate's skills are deficient.
2. The graduate certifies in writing that all of the following apply:
 - The graduate has not secured employment in the occupational field in which he or she received the degree or technical diploma;
 - The graduate has demonstrated that he or she has actively pursued employment in that occupational field;
 - The graduate has not refused employment in that occupational field or in a related field;
 - The graduate has actively sought the assistance of the MATC Student Employment Services office.

Appropriate application forms and information may be obtained through the Registrar's office in Room S115 at the Downtown Milwaukee Campus or by calling 414-297-6824.



OPTIONS FOR LEARNING

DEGREES, DIPLOMAS AND CERTIFICATES

Associate in Arts Degree or Associate in Science Degree (A.A. or A.S.)

The Associate in Arts (A.A.) and Associate in Science (A.S.) degree programs typically require two or more years to complete. These programs include courses in English, history, social science, mathematics, natural science, humanities, foreign language, computer literacy and physical education. Credits earned in most 200-series courses will be accepted by four-year institutions to satisfy course requirements for bachelor's degree programs.

Associate in Applied Science Degree (A.A.S.)

An Associate in Applied Science degree program typically takes two years to complete when pursued full time. Courses with the A.A.S. degree programs are numbered in the 100-series. Selected courses are accepted for transfer to bachelor's degree programs, but it is important to check transferability with the four-year institution you plan to attend.

Technical Diplomas

If you are interested in preparing for a specific job or upgrading your job skills, MATC offers specialized programs that can lead to a technical diploma in your chosen field. The timeframe of the technical diploma programs ranges from less than one semester to one- and two-year programs that provide extensive career training. Technical diploma courses usually require more time in hands-on activities, more class time and less homework per credit than associate degree courses. Many technical diploma courses are numbered in the 300-series. Some diploma programs have courses in the 100-series and those credits can be applied to related associate degree programs.

Certificates

In addition to associate degrees and technical diplomas, MATC also awards certificates. A certificate may consist of:

- Selected courses to update career skills
- Courses selected from an existing associate degree or technical diploma program that are combined to meet the needs of people having related experience and/or who are working in the field
- A single continuing-education career course

If you are interested in enrolling in a certificate program, notify the instructional division of your intent.

SECONDARY CREDENTIALS

Adult High School

The MATC Adult High School is fully accredited to award high school diplomas to adult students who complete all the course requirements.

Adults 18 and older may attend Adult High School to complete high school graduation requirements. An academic screening test for course placement and official transcripts from former high schools are needed. Students attending regular high school who are 16 or 17 years of age may enroll in evening, online, weekend or summer session Adult High School classes if they have written consent of their principal or guidance counselor and parent/guardian, and are in good standing. See the School of Pre-College Education pages in this catalog, the Adult High School information at matc.edu, or call 414-297-7471.



OPTIONS FOR LEARNING

General Educational Development (GED)

MATC offers the GED test as an option for high school non-completers. The GED is often a minimum employment requirement and is one of the entrance requirements at MATC and other colleges.

Students interested in earning their GED can take advantage of specific GED preparation classes offered at MATC and at community-based organizations (CBOs). GED tests may be taken at all MATC campuses. For more information, see the School of Pre-College Education section of this catalog or matc.edu.

High School Equivalency Diploma (HSED)

Students can earn a High School Equivalency Diploma by completing the GED certificate and satisfying the Civic Literacy and Health requirements. There are four other methods of earning an HSED. Please call 414-297-7471 for information about these options.

PROGRAM FOR EMERGING SCHOLARS

Wisconsin Statute s.118.15 provides that a student who is 16 years of age or older and meets the statutory definition of being a child-at-risk may take classes leading to a high school diploma at a technical college. For more information, call the School of Pre-College Education at 414-297-8661.

YOUTH OPTIONS

High school juniors and seniors who wish to begin their MATC college program early may take college courses for both high school and college credit. Students must notify the board of education for their district of their intent by October 1 for enrollment in the spring semester of the following year, and by March 1 for enrollment in the following fall semester. Call the MATC Youth Options office at 414-297-6288 for information.

FLEXIBLE LEARNING OPTIONS

MATC offers many options for students to fit classes around work and family schedules:

- Evening classes are held at all four campuses and other sites throughout the district
- Weekend classes are held on Friday evenings and/or Saturdays
- More than 400 online classes are offered
- Online programs for some associate degrees, diplomas and certificates are also available; see the Online Learning page of this catalog or matc.edu
- Accelerated degree programs: Designed for working adults, MATC's Accelerated programs are structured for minimal in-class time; these programs are identified by the word Accelerated in the program name
- Interactive Television (ITV): Two-way video sessions can originate from any campus and be shared with other campuses

Auditing Courses

You may audit a course if you do not want to receive credits or a grade. You will not be required to complete out-of-class assignments and examinations, but fees and attendance requirements are identical to those of credit students. Audited courses may not be used to satisfy course prerequisites or course requirements, and are not eligible for financial aid or veterans benefits. Not all courses can be audited.

Continuing Education Courses

MATC offers Continuing Education Credit (CEC) and personal enrichment course opportunities. Continuing education courses are also available to businesses on a contract basis through the MATC Office of Workforce and Economic Development. Classes can be conducted on campus or onsite. MATC can create continuing education courses at any time, on any subject. Before MATC creates the course, a community need must be demonstrated and a minimum of 12 people would need to enroll in the course if it were offered; a qualified teacher must be located; and facilities must be available.

Career Courses – Degree and Technical Diploma Credit

MATC offers degree courses and technical diploma courses for credit, which may be taken for continuing education purposes.

Career Courses – Continuing Education Credit (CEC)

MATC provides continuing education courses that are not part of the college's degree and diploma programs. MATC's CEC career courses (400-series) provide ways for students to update job skills and gain new competencies in emerging technologies. The CEC courses are not included in this catalog; for information see matc.edu/OWED/cont_edu.cfm.

Personal Enrichment Courses (Noncredit)

A variety of personal enrichment courses are offered at MATC campuses and other locations throughout the district. These courses are numbered in the 600-series. The courses are not included in this catalog; call 414-297-MATC for information.

Internships

Internships are educational programs that combine in-class academic work with career-related employment. Internships provide students the opportunity to apply academic knowledge to actual work situations, earn required or elective college credits, acquire career-related work experience and enhance personal growth. Some experiences are paid. Internships are mandatory in some MATC programs and optional in others; refer to the program's curriculum. For information about how to become involved in an internship, call 414-297-6244 or email jobshop@matc.edu.

Study Abroad Opportunities

MATC offers and encourages a variety of study abroad opportunities for students interested in learning firsthand about cultures around the world. Scholarships are available, on a limited basis, to help fund MATC-sponsored study abroad opportunities. Credits earned while studying abroad may apply directly to your program. For more information, call the Office of International Education at 414-297-8014.

OPTIONS FOR LEARNING

Apprenticeships

An apprenticeship is a formal training agreement providing on-the-job training and related classroom instruction. A participating employer teaches the skills of the trade on the job. The classroom instruction is theoretical and practical knowledge pertaining to the given trade. To become an apprentice you will need to be registered with the Bureau of Apprenticeship Standards and have an employer sponsor your attendance in classes for one day per week. The balance of your training will occur on the job. For more information, contact the Apprenticeship Coordinator at 414-571-4743 or email triscarn@matc.edu. The following lists apprenticeship instruction areas at MATC, it does not represent all occupations that may offer apprenticeships:

- Barber
- Cement Mason
- Construction Electrician
- Cosmetologist
- Culinary (Cook)
- Drywall Taper and Finisher
- Environmental Service Technician
- Funeral Director
- Glazier
- Industrial Electrician (Maintenance Electrician)
- Industrial Manufacturing Technician
- Industrial Pipe Fitter
- Machine Repair
- Machine Tool (Machinist)
- Painter and Decorator
- Plumber
- Refrigeration and Air Conditioning
- Roofer
- Sheet Metal Worker
- Sprinkler Fitter
- Steamfitter
- Telecommunications (VDV) Installer/Technician
- Tool and Die Maker (Patternmaker)
- Tool Maker

ADVANCED STANDING

Students can apply for advanced standing and obtain course credits if they have skills and knowledge equivalent to MATC courses. Options include credit awarded for high school coursework, courses transferred from another college, work experience, independent study, military training, apprenticeship or examination. Advanced standing work may also qualify as course substitutions or waivers. If credit is awarded, it will be counted toward completion of MATC graduation requirements. Apply early to avoid duplication of coursework. All MATC graduates must complete the final 25% of their coursework at MATC.

Applications for advanced standing are available at all MATC campuses. For more information, call 414-297-8593 at the Downtown Milwaukee Campus, or 414-571-4566 for the Mequon, Oak Creek and West Allis campuses.

Transfer Credit

MATC will award transfer of credit from regionally accredited colleges and universities.

A request will be considered only if the student received a grade of C or higher in those courses.

Credit for military service school may be allowed in conformity with the American Council on Education (ACE) Office of Educational Credits. Credit for noncollegiate courses offered by business, industry and government agencies may also be allowed. All credits awarded for transfer will be counted toward financial aid eligibility.

Credit by Examination

Students may earn advanced standing by demonstrating ability in a specific subject through credit by examination. The most common examinations include the College Level Examination Program (CLEP), Scholastic Aptitude Test (SAT) II, and Advanced Placement (AP) exams. Credit for the CLEP general or subject examinations will be granted for advanced standing. CLEP examinations are not administered at MATC. See clep.collegeboard.org for exam locations.

Spanish Retroactive Credits

If students have had Spanish coursework in the past or speak Spanish, they should take the Spanish Placement Exam. It is a free exam and a good indicator as to what level is the best fit. By testing into an advanced course and earning at least a grade of B, students can earn advanced standing (retroactive credits) for prior courses. Contact the Foreign Language department chairperson in the School of Liberal Arts and Sciences for additional information.

Substitution

One or more MATC courses may replace another MATC course. Students will earn the grade and credit of the course taken. There is no fee for substitution.

Credit for Work Experience

Students may receive credit for work experience. Evaluation of work experience is conducted by the instructional dean. A list of course requirements is provided to the applicant.

High School Credits

MATC has agreements with high schools to award credit for courses taken in high school, including MATC's Adult High School. These agreements are for individual MATC diploma and degree programs. Credit is awarded toward completion of specific MATC program graduation requirements. The credit is applied when the student has been admitted to the program and completed coursework at MATC.

The number of credits awarded will appear on the student's MATC transcript without a grade. For information go to: matc.edu/student/currentstudent/credittransfer/ and click on High School Initiatives.

Apprenticeship Credits

Students may request advanced standing based upon apprenticeship credits (500-level) or apprenticeship work experience. For details, call 414-571-4743.

CAREER PATHWAYS

As you review this catalog, you will see references to Career Pathways, marked with this symbol:



The Career Pathways symbol indicates that the certificate, technical diploma or associate degree is part of a pathway that links related academic programs in a sequence.

Career Pathways are designed to help guide students as they make decisions about their education throughout their entire career. The pathways progress from high school to two-year colleges, to four-year colleges and universities.

Each certificate, diploma or degree in a Career Pathway offers job preparation in your career field AND provides a path to completing the next academic program.

For example, after you earn a technical diploma at MATC that is part of a Career Pathway, you may choose to begin working in your field; then when you decide the time is right to continue your education, the credits you've earned are applied toward completing the related associate degree program, leading to more earning power and greater employment opportunities.

To learn more about MATC's Career Pathways, see matc.edu/academic_programs/

This website illustrates several Career Pathways. The examples include average wages related to jobs along the pathway, and also list the four-year colleges and universities that have credit transfer agreements with MATC, which provide a seamless transition to that institution for pursuing a bachelor's degree.

Check the website frequently; more pathways are currently being developed!

You can also explore the state's website at wicareerpathways.org.

Accounting

ASSOCIATE DEGREE Program Code: 10-101-1 Downtown Milwaukee (first year only),
Oak Creek, West Allis campuses; also offered entirely online

Designed to provide you with fundamental accounting skills in a range of applications, this Associate in Applied Science degree program includes specialized areas such as auditing, cost, taxes, governmental, nonprofit and computerized accounting. Students develop competence in financial, managerial, tax and payroll accounting. Success is enhanced by abilities to organize complex data and to perform arithmetic computations quickly and accurately.

Online Option
This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway
You can earn the Accounting Bookkeeper Trainee certificate and the Accounting Assistant technical diploma on your way to completing this degree.

Career Outlook
Qualified accounting applicants continue to be in demand. Employment opportunities exist in banking, business and industry, government offices and nonprofit organizations.

Program Learning Outcomes
Employers expect graduates to:

- Process financial transactions throughout the accounting cycle
- Analyze financial and business information to support planning and decision-making
- Perform payroll, individual tax and organizational tax preparation, reporting and analysis tasks
- Perform cost accounting preparation, reporting and analysis tasks

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs
Accounting Assistant, Accounting Bookkeeper Trainee, Banking and Financial Services, Business Management

TECHNICAL STUDIES	Credits
(1) ACCTG-111 Accounting 1 ^	4
(1) BADM-165 Legal Environment of Business ^	3
(2) ACCTG-113 Accounting 2 ± ^	4
(2) ACCTG-123 Individual Income Tax ^	3
(3) ACCTG-125 Cost Accounting ±	3
(2) ACCTG-130 Computerized Accounting ± ^	3
(3) ACCTG-116 Intermediate Accounting 1 ±	3
(3) ACCTG-122 Accounting Software Applications ^	3
(3) ACCTG-126 Accounting for Managers	3
(3) ACCTG-142 Payroll Accounting ^	2
(3) BADM-110 Business Communications with Technology	3
(4) ACCTG-117 Intermediate Accounting 2 ±	3
(4) ACCTG-124 Business Income Taxes ±	3
(4) ACCTG-140 Accounting for Governmental and Nonprofit Entities ±	3
(4) ACCTG-150 Accounting Practice With a Systems Approach ±	3

GENERAL STUDIES

ECON-195 Economics
 3 || (or) Any 200-series ECON course | |
ENG-151 Communication Skills 1 ± ^	3
(8) ENG-152 Communication Skills 2 ±	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107 College Mathematics ± ^	3
(or) Any 200-series MATH course	
NATSCI-167 Science of Technology	3
(or) Any 200-series NATSCI course	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series SOCSCI or HIST course	
ELECTIVES: THREE CREDITS NEEDED	**3**
TOTAL CREDITS:	**70**

± Prerequisite required.
 ^ Program curriculum requirements are subject to change.
 ^ Counts toward earning the Accounting Assistant diploma.
 () = Semester order for full-time students.

Possible Careers: Accounting Assistant, Account Specialist, Auditing Clerk, Banking/Finance, Tax Preparer

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ONLINE LEARNING AND ACCELERATED PROGRAMS

Online Courses

More than 400 online courses are offered in a variety of programs. To take advantage of the convenience of online courses, you will need access to a desktop or laptop computer with an internet connection, be skilled in computer navigation and word processing, and be familiar with email communication.

- Online courses require independent learners who are disciplined and responsible for turning in high-quality assignments on time.
- You must have a dedicated desktop or laptop computer and all software required for completing the course.
- Students access course content through the Blackboard learning management system at their convenience while following course due dates. Course content can include syllabi, lesson materials, group projects, interactive activities and assessments.
- Assignments and coursework are submitted via Blackboard according to designated due dates.
- Typically, online courses do not include live events where all students log in at the same time to participate. However, instructors may recommend specific times for online chats. This gives you the opportunity to communicate with the instructor and your classmates.
- Campus time may be required for testing sessions. This will be noted in the class syllabus or announcements.

If you are interested in pursuing an online course:

- Go to ecampus.matc.edu/starthere/ and review the information.
- Go to INFOnline at matc.edu. View all online courses currently available by using the Search for Available Sections option. Add the following three items to narrow your search: Term of Interest, Online Course Search and Subject from the drop-down menu.
- Go to blackboard.matc.edu and click on Student Support. Review the Orientation to Online Learning in Blackboard.
- Information: 414-297-7986 or distancelearning@matc.edu.

Programs Offered Entirely Online

Some degree, diploma and certificate programs are offered entirely online, allowing you the flexibility to complete the program without attending classes at an MATC campus; however, you may be required to take some tests on campus.

Programs available entirely online include:

- Accounting Associate Degree
- Accounting Assistant Technical Diploma
- Accounting Bookkeeper Trainee Certificate
- Advertising Specialist Technical Diploma
- Associate in Arts Degree
- Associate in Arts – Accelerated Degree
- Banking and Financial Services Associate Degree
- Business Management Associate Degree
- Business Management Technical Diploma
- Business Management Trainee Certificate

- eBusiness Strategist Technical Diploma
- eBusiness Technology Analyst Associate Degree
- Entrepreneurship Technical Diploma
- Entrepreneurship Certificate
- Financial Services Technical Diploma
- Financial Services Trainee Certificate
- Healthcare Customer Service Certificate
- IT Network Specialist – Accelerated Associate Degree
- IT Networking and Infrastructure Administration Technical Diploma
- Marketing Management – Accelerated Associate Degree
- Marketing Management Associate Degree
- Marketing Management Technical Diploma
- Marketing Specialist Technical Diploma
- Sales Specialist Technical Diploma
- Social Media Strategist Technical Diploma
- Supply Chain Management Associate Degree
- Supply Management Technical Diploma
- Transportation – Logistics Technical Diploma

Accelerated Programs Fit Your Busy Schedule

Accelerated degree programs provide the opportunity to advance in your current career or begin a new profession, even if you are working full time. Most accelerated courses run for eight weeks, which is half a traditional semester. Generally, the accelerated programs have one evening class per week and the classes meet year-round, with limited breaks. The format allows for more independent study and less time spent in a classroom.

- Designed for working adults, the accelerated programs enable you to complete the core technical classes of an associate degree with one evening class per week; some accelerated programs are all online (General Studies courses may require traditional classroom time)
- You will be part of a supportive group of students who complete the same classes together, sharing expertise and experiences
- Many online classes are available
- The program can transfer to one or more four-year colleges/universities
- All programs are financial aid eligible

Accelerated Associate Degree Programs

School of Business:

- Administrative Professional
- IT Information Systems Security Specialist
- IT Network Specialist
- Legal Administrative Professional
- Marketing Management Online
- Supervisory Management

School of Liberal Arts and Sciences:

- Associate in Arts Online

For curriculum and additional information, see the catalog page for the specific program.

FOUR-YEAR COLLEGE/UNIVERSITY TRANSFER AGREEMENTS

Start Your Bachelor's Degree Here

MATC makes it easy for you to start your bachelor's degree with us. You can seamlessly transfer many MATC credits to virtually any four-year college or university in Wisconsin, and to others across the nation.

Some MATC transfer arrangements with four-year colleges and universities are course-to-course agreements, while others allow a complete degree program transfer. It's important to check with your program advisor to find out which courses and MATC programs will transfer to the four-year college or university you plan to attend. Also, keep in touch with the admissions department of the four-year school so you can be certain you're taking the MATC courses and/or programs that will match their bachelor's degree requirements.

Credit Transfer: School of Liberal Arts and Sciences

One pathway to begin your bachelor's degree is to earn up to 72 bachelor's degree credits through MATC's School of Liberal Arts and Sciences. You can transfer credits earned in 200-level MATC courses to virtually any Wisconsin four-year college or university, and to others across the nation. MATC's Associate in Arts (A.A.) and Associate in Science (A.S.) degrees are equivalent to the general education/liberal arts and sciences requirements for freshmen and sophomores enrolled in many bachelor's degree programs at four-year colleges and universities. With planning, these degrees allow you to enter a four-year degree program with junior standing.

Be sure to meet with your advisor often to find out which MATC courses transfer to other colleges, and stay in touch with the four-year school you plan to attend for updated and detailed credit transfer information.

Specialized University of Wisconsin System Agreements

Students are guaranteed admission into UW-Madison, UW-Milwaukee or UW-Parkside if they complete a predetermined number of credits in prescribed Liberal Arts courses, maintain a good GPA and declare their intent for the program.

UW-Green Bay's Bachelor of Applied Studies (BAS) degree offers a pathway to a bachelor's degree for MATC graduates of Associate in Applied Science programs. These graduates are eligible to pursue the BAS degree in one of several emphasis areas by transferring in the required number of credits, starting at UW-Green Bay as a junior, and finishing the degree fully online.

See Credit Transfer at matc.edu for more UW System transfer agreements.

Historically Black Colleges and Universities

Students complete the first two years at MATC and then transfer with junior standing to one of 10 partner HBCUs throughout the United States.

Additional Transfer Agreements

In program-to-program transfer agreements, selected associate degree program credits are accepted as the first two years of a related bachelor's degree program at designated partner four-year colleges/universities. All-inclusive agreements offer MATC students an opportunity to transfer many or all of their credits earned from MATC and apply them towards a four-year degree at the accepting school.

For a comprehensive listing of transfer agreements, see matc.edu/student/currentstudent/credittransfer/

Plan Ahead

Preparation is key. Students should plan ahead by researching their transfer options and contacting MATC's Office of Articulation and Transfer at 414-297-8606. Also review the four-year transfer information at matc.edu.

It is important to remember that in credit transfer, the awarding of credits is with the receiving institution. Contact the Admissions department of the college or university to which you plan to transfer for more detailed credit transfer information.

Transfer Days

MATC hosts transfer days with representatives from many public and private colleges and universities during the Fall and Spring semesters. Plan to attend a transfer day on your campus to learn more about transfer opportunities.

Research Your Options

Take a look at the following resources when researching your options:

- Articulation agreements between MATC and the various colleges and universities
- Majors offered and the curriculum guides for the majors you are interested in, to assist with course selection while at MATC
- Contact information for the college or university you are considering
- Location and other important logistics that will influence your decision
- Financial aid availability
- General information about the college, such as average class size, student and campus activities, and other areas of interest to you
- For University of Wisconsin System transfer information, see wisconsin.edu/transfer
- Because the final decision of which classes will transfer is made by the institution you are transferring to, it is important to make contact early and plan ahead

COUNSELING, ADVISING, CAREER PLANNING/STUDENT SUPPORT

MATC Counseling

Each Counseling, Advising and Career Planning Center offers crisis intervention, referrals and brief, supportive listening. All services are free, confidential and tailored to fit student needs. Faculty and staff are also encouraged to utilize the services. The counselors are available at each campus from 8 a.m. to 6 p.m. weekdays (until 4 p.m. on Fridays) when classes are in session. For assistance, visit or call:

- Downtown Milwaukee Campus, 414-297-6267
- Mequon Campus, 262-238-2300
- Oak Creek Campus, 414-571-4500
- West Allis Campus, 414-456-5500

Academic Advising

As an MATC student, you will make many critical decisions regarding your academic program and career goals. Your assigned advisor or counselor can provide the assistance you need to make informed decisions.

Advisors and counselors can:

- Answer questions about degree requirements and college procedures
- Assist you with course selection and registration
- Provide information about helpful campus resources and academic support services

It is important to see an assigned advisor (or assigned counselor if you are on probation) before you register for classes each semester. Maintain communication with your advisor throughout your attendance at MATC. Assigned advisors can help you understand your academic options and avoid costly mistakes, but only if you take the initiative to seek advice or participate in advising activities.

Every semester, MATC schedules a priority registration period for continuing program students. Before and during this time, advisors are available to assist you with course planning and scheduling for the following semester.

If you are admitted to an associate degree or technical diploma program, you will be assigned an advisor after the start of your first semester. Thereafter, your advisor's name and contact information will appear on your Program Plan, class schedule and other student records. Students on Academic Probation will be assigned a counselor instead of an advisor. If you do not have an assigned advisor or cannot locate your advisor, contact advising@matc.edu, or visit the Counseling, Advising and Career Planning Center on your campus.

Career Planning Services

Your interests help determine the kind of work you enjoy, and the careers where you are likely to find success. If you are undecided about a career, MATC can help you make an informed decision.

Career Planning Workshop

The Career Planning workshop, "Exploring College Majors," is a seminar that meets for three hours. Participants will begin the process of identifying and exploring careers to help choose which of MATC's many degree and diploma programs are best suited to their interests and abilities.

The workshop looks at labor market trends, high-demand career areas, how to enter those careers, and average salaries. You will:

- Complete a career interest inventory
- Learn about your career personality type
- Match career areas to your interests and personality

For information about registering for workshops located at the Downtown Milwaukee Campus, visit or call the Career Planning Center, Room S209 in the Student Center, 414-297-6267; or call Mequon Campus, 262-238-2300; Oak Creek Campus, 414-571-4500; West Allis Campus, 414-456-5500.

STUDENT SUPPORT

MATC Libraries

The MATC library system provides access to information and services to meet the curriculum-based needs of students, faculty and staff. The libraries are staffed with professional librarians who are trained to assist with research needs and information literacy instruction.

Library services are available onsite at our four campus libraries and through our many electronic pathways, including the mobile phone optimized website and information-via-text (SMS) service.

Visit books.matc.edu

This website enables you to easily locate and request materials at any of the campus libraries. This website provides 24/7 access to more than 50 electronic databases containing articles, reference materials, podcasts, streaming videos, and our 70,000-title e-book collection. Each campus library provides a comfortable study environment, computers available for student research, and materials to support all programs taught at the campus. Each campus library also has special featured collections:

- The Mequon Campus library has collections specializing in horticulture, nursing, anatomy and physiology.
- The Downtown Milwaukee Campus library has collections specializing in health sciences, law and culinary arts. The Legal Research Center provides a comfortable area for patrons to conduct legal research and receive instruction in legal areas of study.
- The Oak Creek Campus library has collections specializing in aviation, fire science, police science and Energy Conservation and Advanced Manufacturing (ECAM).
- The West Allis Campus library specializes in materials that support the Funeral Service program.

Locations and telephone numbers of the campus libraries are:

- Downtown Milwaukee Campus, Room M377, 414-297-6205
- Mequon Campus, Room A282, 262-238-2301
- Oak Creek Campus, Room A202, 414-571-4601
- West Allis Campus, Room 213, 414-456-5392

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See guides.matc.edu for detailed information including hours and library services. The library staff strives to make library use as easy and rewarding as possible. Reference questions are answered in person, by phone or text, or via email. Questions and suggestions are always welcome.

Academic Support Centers

Located at the Downtown Milwaukee, Mequon, Oak Creek and West Allis campuses, the Academic Support Centers are open to all MATC students. Services include assistance in computer applications, course assignments, online use, math, science, social sciences, study skills, writing, as well as tutoring services. Current MATC IDs are needed for printing. Hours are posted online or you may call:

- Mequon Campus, Room A282, 262-238-2220
- Oak Creek Campus, Room A208, 414-571-4647
- West Allis Campus, Room 249, 414-456-5334
- Downtown Milwaukee Campus - See the phone numbers listed in the descriptions below.

Communications Center

Located at the Downtown Milwaukee Campus in Room C278, Communications Center services provide assistance in business courses related to communications including writing, business and computer applications, and online use. A current MATC ID is required for entry and printing. Call 414-297-6739.

Computer Production Center

Located at the Downtown Milwaukee Campus in Room M273, Computer Production Center services include assistance in using a computer for course assignments, word processing, spreadsheets and databases, computer programming and more. Call 414-297-7922.

Math Center

Located at the Downtown Milwaukee Campus in Room C271, the Math Center provides assistance in all math levels including accounting and business math. Call 414-297-6989.

Science Center

Located at the Downtown Milwaukee Campus in Room C271, Science Center services include assistance in science and School of Health Sciences courses, use of computerized instructional resources, and internet use. Call 414-297-6989.

Tutoring Services

Tutoring Services are available to all MATC college students depending on the availability of tutors for the times requested. Services include assigned tutoring, Supplemental Instruction (SI), group tutoring and walk-in tutoring. Tutoring is available upon request at the following campus sites:

- Downtown Milwaukee Campus, Room C201, 414-297-6791
- Mequon Campus, Room A282, 262-238-2220
- Oak Creek Campus, Room A208, 414-571-4647
- West Allis Campus, Room 249, 414-456-5334

Online tutoring also is available to students enrolled in most courses; see MATC Distance Tutoring on matc.edu.

The Homework Helpline telephone service is available for accounting and math students. Call 414-297-TERM (414-297-8376). For tutoring schedules and other information, search Tutoring Services at matc.edu.

Writing Center

Located at the Downtown Milwaukee Campus in Room C270, Writing Center services include assistance in course-related written assignments and projects, résumé writing and research papers. An online writing lab (OWL) is available for students in courses or programs. Call 414-297-8189.

Student Accommodation Services

The mission of Student Accommodation Services (SAS) is to ensure that students with disabilities have equal access and opportunities to all courses, programs and activities offered at MATC according to Section 504 of the Rehabilitation Act of 1973, Americans With Disabilities Act, and Americans With Disabilities Act Amended.

Accommodations and services will be based upon written requests for accommodation and documentation of disability.

Prospective students with disabilities should contact Transition Services at the Downtown Milwaukee Campus, Room S215, 414-297-7839.

Current students should contact the SAS office on campus to apply for classroom accommodations:

- Downtown Milwaukee Campus
Room C219, 414-297-6750, 414-297-8982 TDD
- Mequon Campus
Room B212, 262-238-8227
- Oak Creek Campus
Room A211, 414-571-4525
- West Allis Campus
Room 217, 414-456-5352

Test Monitoring

Test monitoring provides all MATC students with the opportunity to complete a test from a course or program in a secure and professional campus environment. For more information call:

- Downtown Milwaukee Campus, Room S215, 414-297-8180
- Mequon Campus, Room B210, 262-238-2220
- Oak Creek Campus, Room A208, 414-571-4647
- West Allis Campus, Room 249, 414-456-5334

Child Care Services

Child care is available at each campus for the children of students enrolled at any MATC location. By offering reliable, quality child care, the college hopes to contribute to parents' success as MATC students. The child care centers offer a variety of learning experiences that encourage the child's emotional,

STUDENT SUPPORT

social, intellectual and physical development. Children must be enrolled in the child care center on a regular basis. MATC is approved for payment by several funding agencies.

- Downtown Milwaukee Campus, Room H240, 414-297-7880
- Mequon Campus, Room A216, 262-238-2450
- Oak Creek Campus, Room B124, 414-571-4690
- West Allis Campus, 865 South 72nd St., 414-456-5419

Office of Bilingual Education

Many MATC courses are taught in both Spanish and English. Bilingual associate degree, technical diploma and certificate programs are offered. Assistance for students who need help with bilingual communication also is provided by the Office of Bilingual Education, Room M224 in the Main Building at the Downtown Milwaukee Campus. Call 414-297-7801 or 414-297-8147.

The bilingual staff assists students in improving their skills, or enrolling in a degree or diploma program. Educational assistants provide ongoing academic support and tutorial services in and out of the classroom.

The following Office of Bilingual Education services are tailored to bilingual students' needs and are offered to maintain high standards of student success and retention:

- MATC admissions and registration assistance
- Degree, diploma, certificate and apprenticeship information
- Bilingual programs initiatives
- Counseling referrals
- Financial aid and scholarship advising
- Test proctoring
- Translation and evaluation information and referrals on degrees from foreign countries
- Academic advising and tutorial support
- Case management
- Career exploration and employment advising
- Student advocacy
- Spanish GED (General Educational Development)

The major goals of these services are:

- To provide multiple options to Limited English Proficiency students who want to enter and successfully complete an occupational program while they continue to develop and improve their English skills
- To provide individualized and group bilingual academic support services to students while they are in training
- To provide adequate academic and job search services for students within the program
- To provide students with instructional support services

Comunicación bilingüe

Asistencia para estudiantes que necesiten ayuda de comunicación bilingüe es proporcionada por el departamento de la Educación Bilingüe, localizado en la oficina M224, Edificio Principal Milwaukee, Teléfonos 414-297-7801.

Peb zoo siab pab koj

Cov neeg ua hauj lwm hauv Bilingual Department zoo siab pab kom koj ncav txog koj lub hom phiaj ntawm kev kawm ntawv uas yuav ua rau koj tau txoj hauj lwm zoo. Yog koj xav paub ntau ntxiv, thov hu rau peb ntawm 414-297- 8147 los yog 414-297-6100. M224, Main Building, Downtown Milwaukee Campus.

Assistance for Migrants and Seasonal Farm Workers

The College Assistance Migrant Program (CAMP) is funded by the U.S. Department of Education to assist students who are migratory or seasonal farm workers (or children of such workers) to successfully complete their first academic year in a postsecondary program at MATC. Eligible students receive assistance in the admission process, first-year tuition cost, financial aid stipends, academic tutoring and other services. Email fongl@matc.edu, call 414-297-8825, or visit the CAMP office, Room M224 on the Downtown Milwaukee Campus.

Veterans Services

If you are a recipient of the GI Bill and wish to take advantage of Veterans Administration educational benefits, complete the required forms and submit the necessary paperwork to the School Certifying Official (SCO) in the Office of the Registrar. This should be done prior to the start of each semester to make sure your monthly GI Bill payments will arrive on time. VA educational benefits may be used to pay college expenses, but you also may be eligible for other types of financial aid. For information, contact the MATC Military Education Support office at 414-297-6394, or stop in Room S115 on the Downtown Milwaukee Campus. The School Certifying Official is available to answer questions regarding the certification of benefits on a walk-in basis or by appointment.

Department of Multicultural Student Services

The Department of Multicultural Student Services is composed of four offices: Asian American, African American, American Indian and Latino Student Services. Support services, case management, advocacy and intervention, and academic advising are provided. These offices are staffed with specialists who are culturally sensitive to the types of support services needed by minority students. The specialists serve as advocates for current and prospective minority students from diverse backgrounds. The staff provides case management related to student retention, and is concerned with helping students overcome their educational, vocational and financial obstacles so they can successfully achieve their educational goals. Multicultural Student Services is located in Room M238 in the Main Building at the Downtown Milwaukee Campus. For more information, call 414-297-6968.

STUDENT SUPPORT/OFFICE OF STUDENT LIFE

International Students

MATC welcomes international students. Those who intend to apply for a student visa should visit the International Students section at matc.edu, or write to the MATC International Student Admissions Office, Room S203, 700 West State Street, Milwaukee, WI 53233-1443; or call 414-297-6282.

Student Code of Conduct

MATC may impose disciplinary sanctions for violations of the Student Code of Conduct. Violations may include, but are not limited to, the following situations:

- Conduct that damages or destroys college property, or attempts to damage or destroy college property
- Failure to comply with federal, state, county and municipal laws or ordinances while participating in MATC activities or while present on MATC property
- Conduct that obstructs or impairs, or attempts to obstruct or impair, MATC's authorized activities, whether inside or outside a classroom, office, lecture hall, library, laboratory, auditorium, student center, or other place where an MATC-authorized activity is being held
- Conduct that endangers the safety or welfare of students, instructors, administrators, staff or visitors
- Unauthorized possession of college property or property of another member of the college community
- Making a false statement, either verbally or in writing, to any MATC employee or agent on an MATC-related matter
- Conduct that engages in racial, religious, national origin, age, sexual or handicap harassment
- Acts of academic dishonesty

Students judged to have violated the Student Code of Conduct are subject to disciplinary action, in accordance with due process procedures described in the Student Code of Conduct booklet provided by the Office of Student Life. The Student Code of Conduct is the definitive document on student conduct and the judicial system. See matc.edu or call 414-297-6870.

Academic Dishonesty

Academic dishonesty includes cheating, collaborating with another without the approval of the instructor, plagiarizing, stealing the work of another, falsifying records of work and assisting another student in any of the above. Academic dishonesty is a violation of the Student Code of Conduct.

OFFICE OF STUDENT LIFE

The Office of Student Life is dedicated to serving you in all nonacademic areas of student life. The office staff can assist you with a variety of needs: educational, recreational and cultural programming; honor recognition; problem-solving; grievances; legal rights; housing information; guidance; student organizations; and student advocacy and student development.

Student Government

Through Student Government, all MATC students are represented by elected student representatives who act on their behalf. It is officially recognized as the voice of the student body by the administration of MATC and as such, it can make recommendations to the director of Student Life regarding student- or college-related issues. Participating in Student Government is a way to contribute to MATC and to develop skills in communication, organization and leadership. To become involved, call 414-297-6551, or see Student Government at matc.edu/student/studentlife/

Student Organizations

With more than 50 student organizations to choose from, you will find a group that matches your interests. Academic, professional, service, cultural and special-interest organizations are available. Information about registered student organizations, or how to start a new one, is available from the Office of Student Life at each MATC campus. For a complete listing, see matclubs.matc.edu or call 414-297-6518.

Stormer Pass

The MATC Stormer Pass is the official identification card for every student at MATC. The card provides you with a convenient, easy and safe method to make purchases and use services on campus. While off campus, use your Stormer Pass as your U.S. Bank ATM/debit card when you open a U.S. Bank checking account. Contact Office of Student Life at 414-297-8697, email stormerpass@matc.edu or visit matc.edu/student/studentlife/, or contact U.S. Bank at 414-226-0105.

Student Athletic Teams – The Stormers

MATC features the following men's and women's varsity athletic teams:

- Baseball
- Basketball (men and women)
- Soccer (men and women)
- Softball
- Volleyball (women)



MATC Stormers teams have won numerous state championships, with athletes earning state and regional honors. MATC sports teams are members of the National Junior College Athletic Association and the North Central Community College Conference. Stormers athletics help you grow as a leader outside the classroom. For more information about athletic opportunities at MATC, visit matcstormers.com or call 414-297-7872.

Honor Societies

Information on eligibility requirements for membership in various honor recognition programs is available through the Office of Student Life. Ceremonies recognizing scholastic achievement are conducted by this office during the year. See Student Honor Societies at matc.edu/student/studentlife/

OFFICE OF STUDENT LIFE/WORKFORCE DEVELOPMENT

Student Newspaper

The college's biweekly student newspaper, *MATC Times*, is produced and published by MATC students. Students interested in photography, art and design, advertising and writing are encouraged to participate; it is not necessary that you have previous training or experience. Call 414-297-7824.

Student Enrichment/Diversity Programs

Working with campus student organizations, the Office of Student Life brings together students from a broad range of ethnic and cultural groups. This office plans, implements and coordinates social and cultural extracurricular events, including student entertainment programs, in collaboration with student organizations. For more information, call 414-297-6229.

Student Development Events and Programs

Student development programs and events present information and ideas that you can apply to life on campus, as well as in your personal development. Workshops, seminars, presentations and weeklong programs address such topics as stress management, study-habit improvement, how to choose a career, and how to deal with conflict. For a schedule of presentations, call 414-297-6518.

Student Legal Clinic

The Student Legal Clinic provides information and referrals on issues that have an impact on your daily life outside the college. Such issues might be unemployment insurance, landlord-tenant disputes, family matters, traffic violations, small claims and debt counseling. Legal issues involving MATC services, policies and/or personnel, and criminal or serious civil matters are not handled through this office. Operating in cooperation with the Office of Student Life and at no charge to you, the clinic offers information, workshops, seminars and a self-help library of reference materials. For hours or to make an appointment, call 414-297-6630.

Student Complaint Process

If you have college-related concerns or problems, or have complaints or disputes involving college policies, services, employees or other students, you are encouraged to utilize the Office of Student Life.

Visit matc.edu/student/studentlife/ or call:

- Downtown Milwaukee Campus, 414-297-6229
- Mequon Campus, 262-238-2218
- Oak Creek Campus, 414-571-4715
- West Allis Campus, 414-456-5304



OFFICE OF WORKFORCE AND ECONOMIC DEVELOPMENT

MATC's Office of Workforce and Economic Development works closely with the academic areas of the college to deliver efficient and timely training to businesses, and works as a partner with the region's workforce development system to help ensure a skilled workforce. Below is an overview of services, for details see matc.edu/OWED/index.cfm.

Business Outreach and Contracting

- Develops and implements business and industry training and technical assistance contracts to meet companies' needs for skilled workers
- Works with governmental, nonprofit and related organizations to help meet their training needs
- Serves as a strong economic development partner to meet training needs of new companies and current firms that need training to expand and develop their workforce
- Provides training in a wide range of skills and works to support business enterprise efforts
- Delivers onsite customized employee training services

Workforce Development

- Works with area workforce boards to assist with adult and youth training
- Establishes partnerships with agencies and organizations working with dislocated workers to provide training and skill development
- Establishes certificate programs to increase pathways to MATC
- Develops special projects, including those that transition high school students into college
- Implements innovative projects to address the range of foundation skills needed by the area workforce

Continuing Education

- Works with MATC academic areas to provide quality continuing education classes
- Provides access to national industry-based certifications
- Develops new, continuing education certifications including advanced, preparatory and embedded credentials
- Establishes efforts to foster business enterprise development

STUDENT EMPLOYMENT SERVICES

The MATC JOBshop

The mission of the MATC JOBshop is to assist students and graduates with employment needs and provide career information resources. Through the use of the Wisconsin TechConnect Job System, students can explore employment opportunities and research the job market in specific program areas. The JOBshop partners with employers to offer information about job openings for MATC graduates and students. It also provides opportunities for students to network with employers through on-campus programming, employer information sessions and job fairs.



The JOBshop is located at the Downtown Milwaukee Campus, Room S114, and services are available at all regional campuses by appointment. JOBshop hours are Monday through Thursday, 8 a.m. - 4:30 p.m. and Friday, 8 a.m. - 4 p.m. For assistance, visit S114, call 414-297-6244, or email jobshop@matc.edu.

Wisconsin TechConnect Job System

Wisconsin TechConnect is a statewide online employment information system for recruiting Wisconsin Technical College System (WTCS) students and graduates for all types of employment. It is a collaborative effort of Wisconsin's 16 technical colleges. Employers across the state post job openings; students and graduates can upload their résumés and view job openings at wisconsintechconnect.com.

Graduate Career Report Gives Employment Information

An important resource for prospective and current students regarding career and education planning is MATC's Graduate Career Report. To view the report online, follow the graduate employment report link at matc.edu/discover_matc/index.cfm.



Academic Quality Improvement Program (AQIP)

MATC is accredited by the Higher Learning Commission (HLC) of the North Central Association. Accreditation recognizes the overall quality of the college, covering all programs, sites, and methods of delivery. MATC's commitment to achieving and maintaining excellence is demonstrated through our participation in the HLC's Academic Quality Improvement Program (AQIP).

According to the HLC, "AQIP's goal is to infuse the principles and benefits of continuous improvement into the culture of colleges and universities in order to assure and advance the quality of higher education." AQIP institutions are required to meet accreditation standards through actions "that align with the ongoing activities of an institution striving to improve its performance."

AQIP identifies the following six categories as a framework that colleges and universities can use to examine their key processes and allow them to analyze, understand and explore opportunities for improvement.

1. Helping Students Learn
2. Meeting Student and Other Key Stakeholder Needs
3. Valuing Employees
4. Planning and Leading
5. Knowledge Management and Resource Stewardship
6. Quality Overview

MATC's Strategic Plan and Core Abilities are aligned with these categories. Each of the college's four strategic goals has corresponding measurable objectives, strategies and tactics. Several shared-governance committees are responsible for evaluating, reviewing, improving, and further developing these strategies for the benefit of our students as individuals, the college as a whole, our collaborative partners and the entire metropolitan community.

MATC's Strategic Goals:

1. Student Success
2. Workplace Engagement and Innovation
3. Economic and Environmental Sustainability
4. Partnerships and Community Collaboration

Core Abilities:

1. Communicate Effectively
2. Collaborate With Others
3. Respect Diversity
4. Demonstrate Responsibility
5. Think Critically and Creatively
6. Utilize Technology
7. Apply Math and Science
8. Demonstrate Environmental Responsibility
9. Embrace Change

ACCREDITATION INFORMATION

MATC is accredited by the Higher Learning Commission of the North Central Association, 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604; 800-621-7440.

Specific MATC academic programs are accredited, approved and/or governed by the following organizations and agencies.

Automotive Maintenance Technician

National Automotive Technicians Education Foundation
101 Blue Seal Drive, Suite 101,
Leesburg, VA 20175;
703-669-6650, fax: 703-669-6125

Automotive Technology

National Automotive Technicians Education Foundation
101 Blue Seal Drive, Suite 101,
Leesburg, VA 20175;
703-669-6650, fax: 703-669-6125

Aviation Technician – Airframe

Federal Aviation Administration
4915 South Howell Avenue,
Milwaukee, WI 53154;
414-747-5531

Aviation Technician – Powerplant

Federal Aviation Administration
4915 South Howell Avenue,
Milwaukee, WI 53154;
414-747-5531

Barber

Wisconsin Department of Safety and Professional Services for Barber/Cosmetology
1400 East Washington Avenue,
P.O. Box 8935, Madison, WI 53708;
608-266-5441

Cardiovascular Technology

Commission on Accreditation of Allied Health Education Programs (CAAHEP)
1361 Park Street,
Clearwater, FL 33756;
727-210-2350

Accreditation is based upon a recommendation by the Joint Review Committee (JRC-CVT). Both invasive and echocardiography portions are accredited.

Civil Engineering Technology

Land Surveyor Section of the Wisconsin Examining Board of Architects, Professional Engineers, Designers and Land Surveyors
1400 East Washington Avenue,
P.O. Box 8935,
Madison, WI 53708;
608-266-2112; web@drl.state.wi.us

Cosmetologist

Wisconsin Department of Safety and Professional Services for Barber/Cosmetology
1400 East Washington Avenue,
P.O. Box 8935, Madison, WI 53708;
608-266-5441

Culinary Arts

American Culinary Federation Educational Institute Accrediting Commission
10 San Bartola Drive,
St. Augustine, FL 32086;
800-624-9458

Culinary (Cook) Apprentice Program

American Culinary Federation Educational Institute Accrediting Commission
10 San Bartola Drive,
St. Augustine, FL 32086;
800-624-9458

Dental Hygiene

The Commission on Dental Accreditation of the American Dental Association
211 East Chicago Avenue, Suite 1900
Chicago, IL 60611;
312-440-4653

Dietetic Technician

Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics
120 South Riverside Plaza, Suite 2000,
Chicago, IL 60606-6995;
312-899-0040

Funeral Service

American Board of Funeral Service Education
3414 Ashland Ave., Suite G,
St. Joseph, MO 64506;
816-233-3747

As of October 12, 2014, this program has been placed on probation by the American Board of Funeral Service Education (ABFSE) - Committee on Accreditation (COA) for violation of one or more standards of accreditation.

Land Surveying Certificate

Land Surveyor Section of the Wisconsin Examining Board of Architects, Professional Engineers, Designers and Land Surveyors
1400 East Washington Avenue,
P.O. Box 8935, Madison, WI 53708;
608-266-2112

Medical Assistant

Commission on Accreditation of Allied Health Education Programs (www.caahep.org) upon the recommendation of Medical Assisting Education Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs
1361 Park Street,
Clearwater, FL 33756;
727-210-2350

Medical Laboratory Technician

National Accrediting Agency for Clinical Laboratory Sciences
5600 North River Road, Suite 720,
Rosemont, IL 60018;
312-714-8880

Occupational Therapy Assistant (OTA)

Accreditation Council for Occupational Therapy Education (ACOTE)
c/o Accreditation Department, American Occupational Therapy Association (AOTA), 4720 Montgomery Lane,
Suite 200, Bethesda, MD 20814-3449;
301-652-2682

Paralegal

Approved by the American Bar Association

750 North Lakeshore Drive,
Chicago, IL 60611;
312-988-5616; [abanet.org/legalservices/
paralegals/directory/wi.html](http://abanet.org/legalservices/paralegals/directory/wi.html)

Pharmacy Technician

Pharmacy Technician Accreditation Commission (PTAC)

7272 Wisconsin Avenue,
Bethesda, MD 20814;
1-866-279-0681; www.ashp.org

Phlebotomy

Approved by National Accrediting Agency for Clinical Laboratory Sciences

5600 North River Road, Suite 720,
Rosemont, IL 60018;
312-714-8880

Physical Therapist Assistant

Commission on Accreditation in Physical Therapy Education (CAPTE)

1111 North Fairfax Street,
Alexandria, VA 22314-1488;
703-706-3245; capteonline.org

Practical Nursing

Accreditation Commission for Education in Nursing

3343 Peachtree Road NE, Suite 850,
Atlanta, GA 30326

Practical Nursing LPN – RN Educational Progression

Accreditation Commission for Education in Nursing

3343 Peachtree Road NE, Suite 850,
Atlanta, GA 30326

Radiography

Joint Review Committee on Education in Radiologic Technology (JRCERT)

20 North Wacker Drive, Suite 2850,
Chicago, IL 60606-3182;
312-704-5300; mail@jrcert.org

Real Estate

Wisconsin Department of Safety and Professional Services/Real Estate Bureau

P.O. Box 8935,
Madison, WI 53708-8935;
608-266-5511

Registered Nursing

Accreditation Commission for Education in Nursing

3343 Peachtree Road NE, Suite 850,
Atlanta, GA 30326

Respiratory Therapist

Commission on Accreditation for Respiratory Care (COARC)

1248 Harwood Road,
Bedford, TX 76021;
817-283-2835

Accreditation is based upon the recommendation of the Commission on Accreditation for Respiratory Care (COARC).

Surgical Technology

Commission on Accreditation of Allied Health Education Programs (CAAHEP)

1361 Park Street,
Clearwater, FL 33756;
727-210-2350

Accreditation is based upon the recommendation of the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting.



To prepare for a career that fits your interests, the School of Business offers a broad range of program areas, including culinary arts, information technology, cosmetology and more.

Call 414-297-6395 for information about School of Business programs.

Accounting

Associate in Applied Science Degree, page 31

Accounting Assistant

Technical Diploma, page 32

Administrative Professional

Associate in Applied Science Degree, page 33

Administrative Professional – Accelerated

Associate in Applied Science Degree, page 34

Advertising Specialist (formerly Advertising Management)

Technical Diploma, page 35

Aesthetician

Technical Diploma, page 36

Baking and Pastry Arts

Associate in Applied Science Degree, page 37

Baking Production

Technical Diploma, page 38

Banking and Financial Services

Associate in Applied Science Degree, page 39

Barber

Technical Diploma, page 40

Bilingual Office Assistant

Technical Diploma, page 41

Business Management

Associate in Applied Science Degree, page 42

Business Management

Technical Diploma, page 43

Cosmetology

Technical Diploma, page 44

Culinary Arts

Associate in Applied Science Degree, page 45

Culinary Assistant

Technical Diploma, page 46

Culinary Management

Associate in Applied Science Degree, page 47

Digital Forensics Analyst

Technical Diploma, page 48

eBusiness Strategist

Technical Diploma, page 49

eBusiness Technology Analyst

Associate in Applied Science Degree, page 50

Entrepreneurship

Technical Diploma, page 51

Environmental Health and Water Quality Technology

Associate in Applied Science Degree, page 52

Fashion Marketing Specialist

Technical Diploma, page 53

Fashion/Retail Marketing

Associate in Applied Science Degree, page 54

Financial Services

Technical Diploma, page 55

Food and Beverage Management

Technical Diploma, page 56

Food Manufacturing and Processing Technician

Technical Diploma, page 57

Food Science Technology

Associate in Applied Science Degree, page 58

Food Service Assistant

Technical Diploma, page 59

Food Service Team Leader

Technical Diploma, page 60

Hotel/Hospitality Management

Associate in Applied Science Degree, page 61

Human Resources

Associate in Applied Science Degree, page 62

Individualized Technical Studies

Associate in Applied Science Degree, page 63

IT Computer Support Specialist

Associate in Applied Science Degree, page 64

IT Information Systems Security Specialist

Associate in Applied Science Degree, page 65

IT Information Systems Security Specialist – Accelerated

Associate in Applied Science Degree, page 66

IT Mobile Application Developer

Associate in Applied Science Degree, page 67

IT Network Specialist

Associate in Applied Science Degree, page 68

IT Network Specialist – Accelerated

Associate in Applied Science Degree, page 69

IT Networking and Infrastructure Administration

Technical Diploma, page 70

IT Web and Software Developer

Associate in Applied Science Degree, page 71

Legal Administrative

Professional – Accelerated

Associate in Applied Science Degree, page 72

Marketing Management

Associate in Applied Science Degree, page 73

Marketing Management – Online Accelerated

Associate in Applied Science Degree, page 74

Marketing Management

Technical Diploma, page 75

Marketing Specialist

Technical Diploma, page 76

Medical Administrative Specialist

Associate in Applied Science Degree, page 77

Medical Billing

Technical Diploma, page 78

Meeting and Event Management

Associate in Applied Science Degree, page 79

Office Technology Assistant

Technical Diploma, page 80

Paralegal

Associate in Applied Science Degree, page 81

Paralegal Post-Baccalaureate

Technical Diploma, page 82

Real Estate

Associate in Applied Science Degree, page 83

Retail Marketing Specialist

Technical Diploma, page 84

Sales Specialist (formerly Sales Management)

Technical Diploma, page 85

Social Media Specialist

Associate in Applied Science Degree, page 86

Social Media Strategist

Technical Diploma, page 87

Special Event Management

Technical Diploma, page 88

Supervisory Management – Accelerated

Associate in Applied Science Degree, page 89

Supply Chain Management

Associate in Applied Science Degree, page 90

Supply Management

Technical Diploma, page 91

Transportation – Logistics

Technical Diploma, page 92

CERTIFICATE PROGRAMS, pages 93-95

Accounting Bookkeeper Trainee

Barber/Cosmetologist Instructor

Barber/Cosmetologist Manager

Business Management Trainee

Cisco Internetworking (CCNA)

Entrepreneurship

Financial Services Trainee

Information Security Fundamentals

Infrastructure Security

IT/ Advanced Technical Support

IT/ Level 2 - Service Center Technician

IT/ Microsoft Enterprise Desktop Support

IT/ Service Center Technician

IT Security Auditing

Lodging and Hospitality Assistant

Nail Technician

Supervisory Management

System Administration and Security

Water Technician

More programs under development. New programs are planned to debut in the 2015-16 academic year. Check matc.edu for information on these and more. Diplomas: Supervisory Management, Barber/Cosmetologist Instructor, Barber/Cosmetologist Manager, Nail Technician, Advanced User Support, Enterprise IT Support. Certificate: Supervision.

Accounting

ASSOCIATE DEGREE

Program Code: 10-101-1

Downtown Milwaukee (first year only),
Oak Creek, West Allis campuses; also offered entirely online

Designed to provide you with fundamental accounting skills in a range of applications, this Associate in Applied Science degree program includes specialized areas such as auditing, cost, taxes, governmental, nonprofit and computerized accounting. Students develop competence in financial, managerial, tax and payroll accounting. Success is enhanced by abilities to organize complex data and to perform arithmetic computations quickly and accurately.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Accounting Bookkeeper Trainee certificate and the Accounting Assistant technical diploma on your way to completing this degree.

Career Outlook

Qualified accounting applicants continue to be in demand. Employment opportunities exist in banking, business and industry, government offices and nonprofit organizations.

Program Learning Outcomes

Employers expect graduates to:

- Process financial transactions throughout the accounting cycle
- Analyze financial and business information to support planning and decision-making
- Perform payroll, individual tax and organizational tax preparation, reporting and analysis tasks
- Perform cost accounting preparation, reporting and analysis tasks

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Accounting Assistant, Accounting Bookkeeper Trainee, Banking and Financial Services, Business Management

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) ACCTG-111	Accounting 1 ^.....	4
(1) BADM-165	Legal Environment of Business ^.....	3
(2) ACCTG-113	Accounting 2 ‡ ^.....	4
(2) ACCTG-123	Individual Income Tax ^.....	3
(2) ACCTG-125	Cost Accounting ‡.....	3
(2) ACCTG-130	Computerized Accounting ‡ ^.....	3
(3) ACCTG-116	Intermediate Accounting 1 ‡.....	3
(3) ACCTG-122	Accounting Software Applications ^.....	3
(3) ACCTG-126	Accounting for Managers.....	3
(3) ACCTG-142	Payroll Accounting ^.....	2
(3) BADM-110	Business Communications with Technology.....	3
(4) ACCTG-117	Intermediate Accounting 2 ‡.....	3
(4) ACCTG-124	Business Income Taxes ‡.....	3
(4) ACCTG-140	Accounting for Governmental and Nonprofit Entities ‡..	3
(4) ACCTG-150	Accounting Practice With a Systems Approach ‡.....	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡ ^.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology.....	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

ELECTIVES: THREE CREDITS NEEDED..... 3
TOTAL CREDITS: 70

‡ Prerequisite required.

^ Program curriculum requirements are subject to change.

^ Counts toward earning the Accounting Assistant diploma.

() = Semester order for full-time students.

Possible Careers: Accounting Assistant, Account Specialist, Auditing Clerk, Banking/Finance, Tax Preparer

Accounting Assistant

TECHNICAL DIPLOMA

Program Code: 31-101-1

Downtown Milwaukee, Oak Creek, West Allis campuses; also offered entirely online

Prepare for entry-level positions in the accounting field by developing competence in financial, managerial, tax and payroll accounting. Your success in the program will be enhanced by your ability to organize complex data and being detail oriented.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Accounting Bookkeeper Trainee certificate on the way to completing this program. After earning this diploma, all the credits can be applied toward completing the Accounting associate degree.

Career Outlook

Qualified accounting applicants continue to be in demand. Employment opportunities exist in banking, business and industry, financial companies, government offices and nonprofit organizations.

Program Learning Outcomes

Employers expect graduates to:

- Process financial transactions throughout the accounting cycle
- Analyze financial and business information to support planning and decision-making
- Perform payroll, individual tax and organizational tax preparation, reporting and analysis tasks
- Perform cost accounting preparation, reporting and analysis tasks

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Accounting, Accounting Bookkeeper Trainee certificate, Administrative Professional, Banking and Financial Services, Business Management

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

ACCTG-111	Accounting 1 ^	4
BADM-165	Legal Environment of Business.....	3
ACCTG-113	Accounting 2 ‡.....	4
ACCTG-123	Individual Income Tax	3
ACCTG-130	Computerized Accounting ‡ ^	3
ACCTG-122	Accounting Software Applications ^	3
ACCTG-142	Payroll Accounting	2
ENG-151	Communication Skills 1 ‡	3
	(or) ENG-201 English 1	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	

TOTAL CREDITS: 28

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Accounting Bookkeeper Trainee certificate.

Possible Careers: Accounting Assistant, Account Specialist, Bookkeeping Assistant

Administrative Professional

ASSOCIATE DEGREE

Program Code: 10-106-6

Downtown Milwaukee and Oak Creek campuses

As reliance on technology continues to expand in offices, core responsibilities for administrative professionals continue to grow, and this Associate in Applied Science degree program prepares you for success. Administrative professionals operate office technologies, provide training and orientation for new staff and conduct online research. Duties include performing and coordinating administrative activities and storing, retrieving and integrating information for dissemination to staff and clients. This program requires an internship. Some courses are offered at the West Allis Campus.

Accelerated Option

Attend classes one evening each week; see the Administrative Professional – Accelerated page for details.

Dual Degree Option

Take extra courses to also earn the Legal Administrative Professional – Accelerated degree. See your program advisor for details.

Career Pathway

Earn the Office Technology Assistant technical diploma on your way to completing this degree.

Career Outlook

The employment outlook is very strong. Opportunities are best for candidates having extensive knowledge of computer software applications.

Program Learning Outcomes

- Apply technology skills to business and administrative tasks
- Demonstrate effective office/business communication
- Manage administrative projects
- Perform routine administrative office procedures
- Key at 55 words per minute with 95% accuracy
- Maintain business relationships
- Model professionalism in office/business environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) OFTECH-101	Windows and MS Word Keyboard Shortcuts ^	3
(1) OFTECH-103	Keyboard and Keypad ^	1
(1) OFTECH-122	Business English Essentials ^	3
(1) OFTECH-136	Keyboarding Skill Development 1 ‡ ^	1
(1) RBUS-102	Mathematics of Business	3
(2) OFTECH-102	Office Technologies ‡ ^	3
(2) OFTECH-119	Information Management ^	3
(2) OFTECH-133	Business Document Production 1 ‡ ^	3
(2) ACCTG-102	Basic Office Accounting ^	3
(2) OFTECH-146	Keyboarding Skill Development 2 ‡	1
(2) OFTECH-123	Machine Transcription Proofreading and Editing/Administrative ‡	3
(3) OFTECH-184	Microsoft Office: Word, Excel, Access, PowerPoint ‡ ^	3
(3) OFTECH-137	Business Document Production 2 ‡	3
(3) RBUS-111	Business Communications ‡	3
(3) OFTECH-165	Administrative Office Procedures 1 ‡ ^	3
(4) OFTECH-185	MS Office - Intermediate ‡	3
(4) OFTECH-196	Administrative Professional Internship ‡	1
(4) RBUS-180	Business Career Planning ^	1

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-167	Science of Technology	3
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

RBUS-141	Legal Terminology and Court Structure
OFTECH-124	Medical Office Terminology 1
OFTECH-156	Keyboarding Skill Development 3 ‡

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Office Technology Assistant diploma.

() = Semester order for full-time students.

Possible Careers: Administrative Assistant, Administrative Support, Information Manager

Administrative Professional – Accelerated

ASSOCIATE DEGREE

Program Code: 10-106-6.AA

Oak Creek Campus

This Accelerated program allows you to earn your Administrative Professional Associate in Applied Science degree in as few as 16 months. Classes are offered one evening each week, year-round. To earn the degree, General Studies courses must be completed in addition to the accelerated schedule of Technical Studies courses.

The core responsibilities for administrative assistants include performing and coordinating an office's administrative activities and storing, retrieving and integrating information. As reliance on technology continues to expand, administrative assistants provide training and orientation for new staff, conduct online research, and operate office technologies. The Administrative Professional degree program is also available in a non-accelerated format.

Dual Degree Option

Take extra courses to earn the Legal Administrative Professional – Accelerated degree; see advisor for details.

Career Pathway

Earn the Office Technology Assistant technical diploma on your way to completing this degree.

Career Outlook

The employment outlook is very strong. Opportunities are best for candidates having extensive knowledge of computer software applications.

Program Learning Outcomes

- Apply technology skills to business and administrative tasks
- Demonstrate effective office/business communication
- Manage administrative projects
- Perform routine administrative office procedures
- Key at 55 words per minute with 95% accuracy
- Maintain business relationships
- Model professionalism in office/business environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Two years of work experience

Start Dates: August/January

For Information

414-297-6395, matc.edu

TECHNICAL STUDIES

Credits

(1) OFTECH-101	Windows and MS Word Keyboard Shortcuts ^	3
(1) OFTECH-103	Keyboard and Keypad ^	1
(1) OFTECH-122	Business English Essentials ^	3
(1) OFTECH-136	Keyboarding Skill Development 1 ‡ ^	1
(2) OFTECH-102	Office Technologies ‡ ^	3
(2) OFTECH-119	Information Management ^	3
(2) OFTECH-133	Business Document Production 1 ‡ ^	3
(2) OFTECH-146	Keyboarding Skill Development 2 ‡	1
(5) ACCTG-102	Basic Office Accounting ^	3
(5) OFTECH-137	Business Document Production 2 ‡	3
(3) OFTECH-123	Machine Transcription Proofreading and Editing/Administrative ‡	3
(3) OFTECH-165	Administrative Office Procedures 1 ‡ ^	3
(3) OFTECH-184	Microsoft Office: Word, Excel, Access, PowerPoint ‡ ^	3
(4) OFTECH-185	MS Office - Intermediate ‡	3
(4) OFTECH-196	Administrative Professional Internship ‡	1
(4) RBUS-180	Business Career Planning ^	1
(4) RBUS-111	Business Communications ‡	3
(4) RBUS-102	Mathematics of Business	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-167	Science of Technology	3
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

RBUS-141	Legal Terminology and Court Structure
OFTECH-124	Medical Office Terminology 1
OFTECH-156	Keyboarding Skill Development 3 ‡

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

S = Summer

^ Counts toward earning the Office Technology Assistant diploma.

() = Sequence for Accelerated students.

Possible Careers: Administrative Assistant, Administrative Support, Information Manager

Advertising Specialist

TECHNICAL DIPLOMA

Program Code: 31-104-1

Downtown Milwaukee, Mequon, Oak Creek campuses; also offered entirely online

Formerly Advertising Management

This program's coursework focuses on the latest advertising trends and technologies. Students will examine the relationship between the business world and the changing characteristics of commercial and consumer markets.

This diploma program is designed for students with no experience in advertising as well as those already working in the field who seek to enhance their skills.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Marketing Management associate degree.

Career Outlook

Opportunities for employment in advertising and promotion are expected to increase faster than the average for all occupations through 2020.

Program Learning Outcomes

Employers expect graduates to:

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Apply advertising technologies

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Basic computer skills

Related Programs

Marketing Management, Fashion/Retail Marketing, Sales Specialist, Social Media Specialist

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

COMPSW-106	Introduction to MS Office	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3
MKTG-102	Marketing Principles	3
MKTG-104	Selling Principles	3
MKTG-125	Advertising ‡	3
MKTG-173	Marketing Research ‡	3
MKTG-134	Integrated Marketing Communications ‡	3
RBUS-111	Business Communications ‡	3
	(or) MGTDEV-195 Managerial Communications	
MKTG-129	Advertising Campaign Strategies ‡	3

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Advertising Creative and Account Management, Business-to-Business or Business-to-Consumer Marketing, Event Marketing

Aesthetician

TECHNICAL DIPLOMA

Program Code: 31-502-2

Mequon Campus

The Aesthetician two-semester diploma program, in compliance with the Wisconsin Department of Safety and Professional Services, prepares students for careers in skincare services. You become eligible to take the state board aesthetician licensing examination, and work in upscale spas or alongside medical professionals.

This program includes advanced techniques that will give graduates an edge over those with a basic aesthetician certificate. Instruction includes consultations; skin analysis; anatomy and physiology of the skin; effects of aging, skin diseases and disorders; facial and body treatments; benefits and use of machines; makeup techniques; color analysis; advanced techniques of microdermabrasion and chemical exfoliation; creating a business plan; and the study of Wisconsin laws, safety and sanitation. Currently licensed aestheticians may be eligible for advanced standing.

In addition to tuition and textbooks, students will need to purchase a tool/equipment kit.

Graduates of the MATC Cosmetology diploma program who plan to complete this Aesthetician program may transfer credits from duplicate courses.

Career Outlook

The expected job growth rate for aestheticians in the region is 32% (641 openings) and a national increase of 43% from 2013 to 2024. With additional training and licensing, you could become an independent contractor, a salon/spa owner or aesthetician instructor.

Program Learning Outcomes

Employers will expect graduates to:

- Perform consultations and skin analysis
- Perform facial and body treatments
- Perform hair removal services
- Demonstrate makeup application
- Utilize electrotherapy techniques
- Perform microdermabrasion and chemical exfoliation
- Demonstrate retail techniques
- Recommend products to clients
- Adhere to professional standards
- Demonstrate time management and organizational skills

Start Dates: August/January

For Information

414-297-6395 or contact Amy Poshepny, program coordinator, 414-297-7282; poshepna@matc.edu

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Barber, Barber Apprenticeship, Cosmetologist Apprenticeship, Cosmetology, Barber/Cosmetologist Manager, Nail Technician

EIGHT-WEEK TERMS		Credits
BARCOS-108	Facial Treatments	3
BARCOS-324	Business Skills	1
BARCOS-317	Barber/Cosmetology Theory	1
BARCOS-330	Business Management Skills	2
BARCOS-355	Spa Sciences	3
BARCOS-109	Hair Removal Treatments ‡	1
BARCOS-101	Spa Services 1 ‡	4
BARCOS-102	Spa Services 2 ‡	4
BARCOS-103	Spa Services 3 ‡	4
BARCOS-104	Spa Treatments ‡	3
BARCOS-105	Medical Spa Terminology and Limitations	2
BARCOS-106	Advanced Makeup Techniques ‡	1
BARCOS-107	Advanced Spa Treatments ‡	1
COMPSW-101	Computer Essentials	1
PSYCH-199	Psychology of Human Relations	3

TOTAL CREDITS: 34

‡ Prerequisite required.
Program curriculum requirements are subject to change.



Possible Careers: Skin Care Specialist, Makeup Artist, Aesthetician Instructor/Educator, Cosmetics Representative, Cosmetic Chemistry/Product Development

Baking and Pastry Arts

ASSOCIATE DEGREE

Program Code: 10-314-1

Downtown Milwaukee Campus

Learn the techniques of producing artisan breads, classic pastries, pies, tarts and petits fours, celebration cakes and showpieces through this Associate in Applied Science degree program. Students develop professionalism and proficiency in preparation procedures, production methods and presentation techniques, as well as cost control and food safety. You will learn firsthand how to run a bakery café operation from the front and back of the house, and also prepare foods sold in the student-operated 6th Street Café.

Bakers typically need to stand for long periods of time and require full use of their arms, hands and fingers. Reading ability and basic math skills are essential. Other important attributes for success in this program include the ability to lift up to 50 pounds, a willingness to assume responsibility for quality of work, and the ability to work well with others. Students will be required to purchase a pastry tool kit and uniform.

Career Pathway

Earn the Baking Production technical diploma on your way to completing this degree.

Career Outlook

Throughout the United States, employment in the food preparation sector is expected to increase. Highly skilled bakers should be especially in demand because of the growing demand for specialty products.

Program Learning Outcomes

Employers expect graduates to possess skills and knowledge in:

- Safe use of hand and power tools in the bakery
- Scaling ingredients
- Mixing and handling batters and doughs
- Preparation of fancy breads, layer cakes, tortes, cookies
- Converting standard recipes and portion control formulas
- Applying icing to baked products

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Start Dates: July/August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) BAKING-120	Basic Baking Techniques and Bread Baking ^.....	3
(1) BAKING-124	Scratch Baking ^.....	3
(1) BAKING-122	Baking Principles and Ingredient Functions ^.....	3
(1) BAKING-123	Cake Decorating, Icing and Pastry Bags ^.....	3
(1) CULMGT-112	Food Service Sanitation ^.....	2
(2) BAKING-129	Healthy and Natural Baking ^.....	2
(2) BAKING-125	Artisan Breads ^.....	3
(2) CULMGT-105	Culinary Math and Cost Control ^.....	3
(2) BAKING-130	Field Experience in Baking and Pastry Arts	1
(2) BAKING-101	Specialty Baking and Pastry Techniques 1 ^.....	3
(3) CULART-125	Culinary Skills for Baking/Hospitality	5
(3) BAKING-104	Fondant and Gum Paste	2
(3) BAKING-102	Hotel and Restaurant Dessert Production	3
(4) HOTEL-133	Supervision in the Hospitality Industry	2
(4) BAKING-107	Cafe Operations.....	5
(4) BAKING-127	Chocolate, Confections and Sugar Work.....	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^.....	3
(&) ENG-152	Communication Skills 2 ‡ ^.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡ ^.....	3
	(or) Any 200-series MATH course	
NATSCI-172	Basic Nutritional Science ^.....	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Baking Production diploma.

() = Semester order for full-time students.

Possible Careers: Pastry Cook, Pantry Chef, Sous Chef, Executive Pastry Chef, Chocolatier

Baking Production

TECHNICAL DIPLOMA

Program Code: 31-314-2

Downtown Milwaukee Campus

Learn to produce and prepare pies, cookies, cakes, breads, rolls, desserts and other baked goods in a variety of baking environments, such as independent and in-store bakeries as well as large commercial bakeries, restaurants and hotels. Bakers typically need to stand for long periods of time and require full use of their arms, hands and fingers. Reading ability and basic math skills are essential. Other important attributes for success in this program include the ability to lift up to 50 pounds, a willingness to assume responsibility for quality of work, and the ability to work well with others. Students will be required to purchase a pastry tool kit and uniform.

Career Pathway

After earning this diploma, the credits can be applied to completing the Baking and Pastry Arts associate degree.

Career Outlook

Graduates typically find employment in a bakery environment. Employers will expect graduates to safely use equipment, to mix batters and doughs, and to skillfully prepare and decorate baked products.

Program Learning Outcomes

Employers expect graduates to possess skills and knowledge in:

- Safe use of hand and power tools in the bakery
- Scaling ingredients
- Mixing and handling batters and doughs
- Applying icing to baked products
- Preparation of fancy breads, dinner rolls, layer cakes, tortes, petits fours and cookies
- Converting standard recipes and portion control formulas

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Baking and Pastry Arts, Culinary Arts, Culinary Assistant, Hotel/Hospitality Management, Food Service Assistant

Start Dates: July/August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

BAKING-120	Basic Baking Techniques and Bread Baking.....	3
BAKING-129	Healthy and Natural Baking.....	2
BAKING-122	Baking Principles and Ingredient Functions	3
BAKING-123	Cake Decorating, Icing and Pastry Bags.....	3
ENG-151	Communication Skills 1 #.....	3
CULMGT-112	Food Service Sanitation	2
BAKING-124	Scratch Baking.....	3
BAKING-101	Specialty Baking and Pastry Techniques 1	3
BAKING-125	Artisan Breads	3
CULMGT-105	Culinary Math and Cost Control	3
ENG-152	Communication Skills 2 #.....	3
MATH-107	College Mathematics #	3
NATSCI-172	Basic Nutritional Science	3

TOTAL CREDITS: 37

Prerequisite required.

Program curriculum requirements are subject to change.

Banking and Financial Services

ASSOCIATE DEGREE

Program Code: 10-114-3

Downtown Milwaukee and West Allis campuses; also offered entirely online

Students learn accounting and financial principles for employment areas including banks, credit unions, insurance and consumer finance companies, and corporate finance departments. Graduates of this Associate in Applied Science degree program possess the skills and knowledge necessary for entry-level employment, or articulation to a four-year degree program.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Financial Services Trainee certificate and the Financial Services technical diploma on your way to completing this degree.

Career Outlook

Graduates will have a solid foundation for a range of career opportunities within the industry, including personal banker, credit specialist, insurance sales agent and loan specialist.

Program Learning Outcomes

Employers will expect program graduates to:

- Exhibit knowledge and understanding of banking and financial transactions
- Demonstrate knowledge and understanding of accounting concepts
- Apply selling skills
- Demonstrate appropriate application of financial tools
- Employ problem-solving and decision-making skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Financial Services Trainee, Financial Services, Business Management, Entrepreneurship, Marketing Management

Start Dates: August/January

For Information

414-297-6395, matc.edu

TECHNICAL STUDIES

Credits

(1) FIN-120	Introduction to Money, Banking and Financial Markets ^	3
(1) COMPSW-106	Introduction to MS Office ^	3
(2) ACCTG-111	Accounting 1 ^	4
(2) BADM-134	Business Organization and Management	3
(2) RBUS-102	Mathematics of Business ^	3
(3) ACCTG-113	Accounting 2 ‡	4
(3) BADM-104	Business Statistics ‡	3
(3) HRMGT-198	Business Ethics	3
(3) ITSUP-101	Computer Information Systems Fundamentals	3
(4) FIN-122	Investment Principles ‡ ^	3
(4) BADM-126	Business Finance ‡	3
(4) FIN-170	Credit Management Procedures ^	3
(4) BADM-192	Risk Management and Insurance ^	3
(4) MKTG-104	Selling Principles ^	3
(4) FIN-180	Financial Statement Analysis	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(& ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Financial Services diploma.

() = Semester order for full-time students.

Barber

TECHNICAL DIPLOMA

Program Code: 31-502-5

Downtown Milwaukee Campus

In compliance with the Wisconsin Department of Safety and Professional Services, this program prepares you to work in the barbering profession. You will learn shampooing, trimming, cutting and hair styling techniques, as well as shaving, beard trimming, hair coloring and chemical texture services. Upon completion of the 1,000-hour diploma program, you become eligible to take the state board licensing exam. MATC's Barber program can be completed in just two semesters. Keys to your success in the Barber program are good interpersonal skills; effective speaking, listening and time management skills; and manual dexterity. An artistic sense and the ability to visualize styles are important. You must be able to work efficiently under pressure.

In addition to tuition and textbooks, students must purchase a tool/equipment kit.

For information about the Barber apprenticeship program, contact the apprentice coordinator at 414-297-8054.

Career Outlook

Employment prospects for licensed barbers are excellent. Many barbers are self-employed, either owning their business or leasing booth space in a salon or barbershop.

Program Learning Outcomes

Employers will expect you, as a new licensee, to:

- Perform hair/scalp cleansing and conditioning services
- Perform haircutting and hairstyling services
- Perform shaving, lining and beard trimming services
- Perform chemical texture services
- Perform hair coloring and lightening services
- Provide male facials
- Adhere to professional attitudes
- Adhere to Wisconsin state statutes

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Cosmetology, Barber Apprenticeship, Bilingual Barber/Cosmetologist Apprenticeship

Start Dates: August/January

For Information

414-297-6395, matc.edu

EIGHT-WEEK TERMS

Credits

BARCOS-300	Shampoo and Scalp Treatments ‡	2
BARCOS-336	Barber Theory 1	1
BARCOS-337	Barber Haircut 1	2
BARCOS-338	Barber Chemical Services 1	1
BARCOS-341	Shaving/Facials.....	2
BARCOS-324	Business Skills for Barbers/Cosmetologists.....	1
BARCOS-344	Barber Theory 2 ‡	1
BARCOS-345	Barber Haircut 2 ‡	2
BARCOS-346	Barber Chemical Services 2 ‡	1
BARCOS-347	Barber Hairstyling 1	1
BARCOS-348	Introduction to Client Services ‡	2
BARCOS-319	Natural Hair Care and Braiding ‡	1
BARCOS-318	Barber Theory 3 ‡	1
BARCOS-320	Client Services 1 ‡	1
BARCOS-349	Barber Haircut 3 ‡	1
BARCOS-350	Barber Chemical Services 3 ‡	2
BARCOS-351	Barber Hairstyling 2 ‡	1
BARCOS-353	Barber Haircut 4 ‡	2
BARCOS-330	Business Management Skills for Barbers/Cosmetologists	2
BARCOS-323	Client Services 2 ‡	1
BARCOS-352	Barber State Board Review ‡	2

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.


Possible Careers: Barber, Barbershop Owner, Stylist, Salon Owner, Barber Educator/Instructor, Barber Manager, Platform Artist, Product Representative

Bilingual Office Assistant

TECHNICAL DIPLOMA

Program Code: 31-106-6

West Allis Campus

Students fluent in English and a second language will be prepared for bilingual office positions after completing this two-semester program. Students will use Microsoft Word, Excel, Access and PowerPoint software to produce documents in both languages; and will use the internet, videoconferencing and other technologies for international business communications. All courses, except foreign language instruction, are taught in English.

Career Pathway

After earning this diploma, credits can be applied toward the Administrative Professional associate degree.

Career Outlook

There is a strong need for bilingual office workers. Government agencies and educational institutions also actively recruit bilingual office assistants to serve an increasingly diverse community.

Program Learning Outcomes

Employers will expect graduates to:

- Demonstrate fluency in English and a second language
- Demonstrate proficiency in MS Word, Excel, Access and PowerPoint in both languages
- Compose and produce documents in both languages
- Demonstrate proficiency in using electronic office equipment
- Key at least 45 words per minute
- Coordinate internal and external communications
- Manage computer files
- Perform routine maintenance on personal computers
- Address customer service needs
- Access organizational resources
- Manage filing systems
- Maintain supply inventories
- Work in a team
- Pace work to meet deadlines
- Apply decision-making and problem-solving skills
- Demonstrate MATC core abilities

Start Dates: August/January/March

For Information

414-297-6395, matc.edu



Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

SIXTEEN-WEEK TERMS

	Credits
ENG-151 Communication Skills 1 ‡.....	3
FLANG-123 Intermediate Spanish* ‡..... (or) FLANG-213 Spanish 3 ‡	3
OFTECH-103 Keyboard and Keypad.....	1
OFTECH-101 Windows and MS Word Keyboard Shortcuts	3
OFTECH-119 Information Management	3
OFTECH-136 Keyboarding Skill Development 1 ‡	1
OFTECH-190 Bilingual Office Assistant Internship.....	2
OFTECH-133 Business Document Production 1 ‡	3
OFTECH-102 Office Technologies ‡.....	3
OFTECH-186 MS Office for Bilingual Users.....	3
RBUS-180 Business Career Planning.....	1

TOTAL CREDITS: 26

‡ Prerequisite required.

Program curriculum requirements are subject to change.

*Another foreign language course may be substituted for this course.

The student must earn a minimum 2.5 GPA in foreign language.

Possible Careers: Bilingual Clerk Typist, Bilingual Customer Service, Bilingual Receptionist, Bilingual Office Assistant, International Assistant

Business Management

ASSOCIATE DEGREE

Program Code: 10-102-3

All campuses; also offered entirely online

Attain a strong foundation in a range of areas including supervision, risk management, business law, office technologies, human resources and marketing. In this Associate in Applied Science degree program, students select one of two groups of courses: Career Emphasis or Four-Year College Transfer Emphasis.

Online Option

The Career Emphasis program may be taken in class or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Business Management Trainee certificate and the Business Management technical diploma on your way to completing this degree.

Career Outlook

Graduates locate employment in a wide cross-section of firms, such as large industrial corporations to small service-oriented companies, as well as operating their own businesses.

Program Learning Outcomes

Employers will expect program graduates to:

- Plan the operations of a business across functional areas
- Organize resources to achieve the goals of the organization
- Direct individuals and/or processes to meet organizational goals
- Control business processes

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Business Management Trainee, Business Management diploma, Banking and Financial Services, Entrepreneurship

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Manager, Entrepreneur, Supervisor

TECHNICAL STUDIES

Credits

(1) BADM-134	Business Organization and Management ^	3
(1) COMPSW-106	Introduction to MS Office ^	3
(1) BADM-165	Legal Environment of Business ^	3
(2) BADM-192	Risk Management and Insurance ^	3
(3) BADM-104	Business Statistics ‡	3
(4) BADM-126	Business Finance ‡ ^	3
(4) BADM-155	Management Principles ‡	3

Choose one emphasis:

CAREER EMPHASIS (10-102-3.A)

(1) ACCTG-110	Financial Accounting ^	3
	(or) ACCTG-111 Accounting 1	
(2) MKTG-102	Marketing Principles	3
(2) RBUS-180	Business Career Planning	1
(2) RBUS-102	Mathematics of Business	3
(3) BADM-110	Business Communications with Technology	3
	(or) ENG-208 Technical Communications ‡	
	(or) ENG-202 English 2 ‡	
(3) HRMGT-193	Human Resources Management	3
(4) BADM-145	Small Business Management ‡ ^	3

FOUR-YEAR COLLEGE TRANSFER EMPHASIS (10-102-3.B)

(1) ACCTG-111	Accounting 1	4
(2) ECON-202	Macroeconomics	3
(3) ACCTG-113	Accounting 2	4
(3) ENG-208	Technical Communications ‡	3
(3) SPEECH-201	Elements of Speech	3
(4) ACCTG-125	Cost Accounting	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course*	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course*	
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-series MATH course*	
NATSCI-149	Introduction to Geographical Information Systems ‡	3
	(or) Any 200-series NATSCI course*	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course*	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course*	

ELECTIVES: SIX CREDITS NEEDED 6

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Business Management diploma.

* Students seeking transfer to a four-year college/university should take 200-level courses.

() = Semester order for full-time students.

Business Management

TECHNICAL DIPLOMA

Program Code: 31-102-3

All campuses; also offered entirely online

Move forward with a strong foundation of business knowledge including management, business law, office technologies, accounting and risk management. Through this one-year program, students also attain competence in the business functions of planning, organizing, directing and controlling.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Business Management Trainee certificate on the way to completing this program. After earning this diploma, the credits can be applied toward completing the Business Management associate degree.

Career Outlook

Graduates possess skills to begin a career in many business settings, from large industrial companies to small service-oriented franchises. Self-employed business owners also will profit from this program.

Program Learning Outcomes

Employers will expect graduates to:

- Plan the operations of a business across functional areas
- Organize resources to achieve the goals of the organization
- Direct individuals and/or processes to meet organizational goals
- Control business processes

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Business Management Trainee, Business Management degree, Entrepreneurship, Banking and Financial Services

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

BADM-134	Business Organization and Management ^	3
COMPSW-106	Introduction to MS Office ^	3
BADM-165	Legal Environment of Business ^	3
ENG-151	Communication Skills 1 ‡	3
	(or) ENG-201 English 1	
BADM-192	Risk Management and Insurance	3
ACCTG-110	Financial Accounting ^	3
	(or) ACCTG-111 Accounting 1	
BADM-126	Business Finance ‡	3
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
BADM-145	Small Business Management ‡	3

TOTAL CREDITS: 27

‡ Prerequisite required.

^ Counts toward earning the Business Management Trainee certificate.

Program curriculum requirements are subject to change.

Cosmetology

TECHNICAL DIPLOMA

Program Code: 31-502-1

Downtown Milwaukee Campus

This program, in compliance with the Wisconsin Department of Safety and Professional Services, prepares you to work in the cosmetology profession. The program can be completed in one year to 18 months, including attendance in summer. Students complete an externship course for skill development at a professional, licensed host salon. Upon successful program completion, you become eligible to take the state board licensing examination. Keys to your success in the program are effective speaking and listening skills, organization and time management skills, and good manual dexterity. An artistic sense and the ability to visualize styles are important. You must be able to work efficiently under pressure.

In addition to tuition and textbooks, students must purchase a tool/equipment kit, approximately \$1,500. For information about the apprenticeship program, call 414-297-8054.

Career Outlook

Employment prospects for cosmetologists are excellent. With additional training and licensing, you could become a salon manager, cosmetology instructor or guest artist.

Program Learning Outcomes

Employers will expect you, as a new licensee, to be able to:

- Perform hair/scalp cleansing and conditioning services
- Perform haircutting, hair shaping and hairstyling services
- Perform chemical hair texturizing, hair coloring and lightening services
- Perform natural hair care services
- Perform skin care services
- Perform nail services
- Adhere to professional standards
- Demonstrate time management and organizational skills

Admission Requirements

- High school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Aesthetician, Barber, Cosmetologist Apprenticeship,
Bilingual Barber/Cosmetologist Apprenticeship

Start Dates: August/January

For Information

414-297-6395, matc.edu



EIGHT-WEEK TERMS

Credits

BARCOS-300	Shampoo and Scalp Treatments ‡.....	2
BARCOS-302	Women's Haircut 1 ‡.....	2
BARCOS-304	Permanent Wave ‡.....	2
BARCOS-306	Esthetics 1 ‡.....	2
BARCOS-314	Hairstyle 1 ‡.....	2
BARCOS-301	Men's Haircut 1 ‡.....	2
BARCOS-309	Chemical Relaxing ‡.....	2
BARCOS-310	Hair Tinting ‡.....	2
BARCOS-315	Hairstyle 2 ‡.....	2
BARCOS-307	Esthetics 2 ‡.....	1
BARCOS-324	Business Skills for Barber/Cosmetologists.....	1
BARCOS-305	Women's Haircut 2 ‡.....	2
BARCOS-312	Advanced Color ‡.....	1
BARCOS-320	Client Services 1 ‡.....	1
BARCOS-329	Basic Artificial Nail Concepts ‡.....	1
BARCOS-319	Natural Haircare and Braiding ‡.....	1
BARCOS-321	Hair Extensions ‡.....	1
BARCOS-303	Men's Haircut 2 ‡.....	2
BARCOS-313	Hair Color Correction ‡.....	1
BARCOS-317	Barber/Cosmetology Theory.....	1
BARCOS-323	Client Services 2 ‡.....	1
BARCOS-326	Client Services 3 ‡.....	1
BARCOS-330	Business Management Skills for Barber/Cosmetologists.....	2
BARCOS-308	Nail Services ‡.....	2
BARCOS-316	Advanced Style ‡.....	1
BARCOS-327	Client Services 4 ‡.....	1
BARCOS-328	Client Services 5 ‡.....	1
BARCOS-335	State Board Review ‡.....	3
(Any Quarter)		
MATH-304	Math Principles 1 ‡.....	1
SOCS-330	Applied Economics and Human Relations.....	1

TOTAL CREDITS: 45

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Cosmetologist, Cosmetology Instructor/Educator, Cosmetology Manager, Salon Owner, Cosmetology Product Representative, Stylist

Culinary Arts

ASSOCIATE DEGREE

Program Code: 10-316-1

Downtown Milwaukee and Oak Creek campuses

This Associate in Applied Science degree program fuses the art and science of cooking with an introduction to critical business management. Focus is on culinary training, leadership skills and the collaborative attitude needed to excel in the food service industry. Students learn classical techniques, as well as develop critical thinking skills within an integrated front-of-the-house curriculum. You will learn firsthand through the MATC student-operated Cuisine Restaurant. Students will need reading aptitude and basic math problem-solving skills. A high level of physical stamina, an ability to relate to others and the ability to work rapidly for extended periods of time are important. Students completing this program can earn the Culinary Management associate degree by taking two additional semesters. This program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

Career Pathway

Earn the Culinary Assistant technical diploma on your way to completing this degree.

Career Outlook

Graduates are highly employable as cooks (sauté, banquet, catering, broiler, fry, dessert/pastry, garde manger/deli), bakers, and management trainees.

Program Learning Outcomes

Graduates will possess skills and knowledge in:

- Safe use of tools for food service and sanitation
- Menu planning and nutrition
- Conversion of standard recipes and portion control
- Preparation and identification of standards for a finished product
- Directing others in job performance
- Purchasing food service products
- Work simplification techniques
- Most areas of food production
- Meeting and dealing effectively with people

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Start Dates: July/August/January

For Information

414-297-6395, matc.edu


Possible Careers: Sous Chef, Line Chef, Caterer, Food Service Manager

TECHNICAL STUDIES

Credits

(1) CULART-121	Mise en Place/Culinary Fundamentals ^	1
(1) CULART-119	Culinary Science ‡ ^	1
(1) CULMGT-112	Food Service Sanitation ^	2
(1) CULMGT-105	Culinary Math and Cost Control ^	3
(1) CULART-100	Introduction to Culinary Arts ^	1
(1) CULART-118	Sustainable Food Communities ^	1
(2) CULART-123	Vegetables, Starches and Grains ^	2
(2) CULART-122	Stocks, Soups and Sauces ^	1
(2) CULART-124	Meat Identification and Fabrications ^	1
(2) CULART-126	Seafood/Shellfish Cookery ^	1
(2) CULART-127	Center of the Plate – Meat Cookery ^	2
(2) CULART-107	Field Experience in Food Service/Hospitality ‡	1
(2) BAKING-135	Baking for Culinarians ‡	3
(2) CULMGT-102	Food and Beverage Procurement ‡ ^	2
(3) CULMGT-101	Menu Planning and Design ^	2
(3) CULART-115	Culinary Arts Practicum ‡	1
(3) CULART-110	Garde Manger ‡	2
(3) CULART-112	Business and Industry Food Service/Catering 1 ^	5
(3) CULART-134	American Regional Cuisine ^	1
(3) CULART-135	European and Mediterranean Cuisine ^	1
(3) CULART-136	Asian Cuisine ^	1
(3) CULART-137	South and Central American Cuisine ^	1
(4) CULART-108	Contemporary Restaurant Cooking ‡	5
(4) CULART-138	Restaurant Operations	2
(4) CULART-105	Dining Room Service ‡	2
(4) HOTEL-133	Supervision in the Hospitality Industry	2
(4) FLANG-111	Spanish for Restaurants	1

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-series MATH course	
NATSCI-172	Basic Nutritional Science	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Culinary Assistant diploma.

() = Semester order for full-time students.

Culinary Assistant

TECHNICAL DIPLOMA

Program Code: 31-316-1

Downtown Milwaukee and Oak Creek campuses

You will learn basic theory and techniques of food production and service through a combination of lecture, demonstration and hands-on experience. The program prepares students for entry-level employment in the food service industry, wherever food is prepared in quantity. Students will need reading aptitude and basic math problem-solving skills, as well as the ability to work well with others. A high level of physical stamina and the ability to work rapidly for extended periods of time are important. After earning this diploma, credits can be applied toward completing the Culinary Arts or Culinary Management associate degree.

This program is accredited by the American Culinary Federation Educational Institute Accrediting Commission.

Career Pathway

You can earn the Food Service Assistant diploma on your way to completing this program. Also, after earning the Culinary Assistant diploma the credits can be applied toward completing the Culinary Arts associate degree.

Career Outlook

Graduates are in demand for positions as cooks and management trainees. With experience, opportunities exist for advancement to the position of chef and/or manager.

Program Learning Outcomes

Employers expect graduates to possess skills and knowledge in:

- Safe use of hand and power tools in food service safety and sanitation
- Menu planning
- Conversion of standard recipes and portion control
- Most areas of food production
- Directing others in job performance
- Work simplification methods
- Meeting and dealing effectively with people

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

CULMGT-112	Food Service Sanitation ^	2
CULMGT-105	Culinary Math and Cost Control	3
CULART-121	Mise en Place/Culinary Fundamentals ^	1
CULMGT-101	Menu Planning and Design.....	2
CULART-100	Introduction to Culinary Arts	1
CULART-118	Sustainable Food Communities	1
CULART-119	Culinary Science ‡	1
ENG-151	Communication Skills 1 ‡	3
MATH-107	College Mathematics ‡	3
CULART-123	Vegetables, Starches and Grains ^	2
CULMGT-102	Food and Beverage Procurement ‡	2
CULART-112	Business/Industry Food Service/Catering 1	5
CULART-134	American Regional Cuisine	1
CULART-135	European and Mediterranean Cuisine.....	1
CULART-136	Asian Cuisine.....	1
CULART-137	South and Central American Cuisine.....	1
CULART-122	Stocks, Soups and Sauces	1
CULART-124	Meat Identification and Fabrications	1
CULART-126	Seafood/Shellfish Cookery.....	1
CULART-127	Center of the Plate – Meat Cookery	2

TOTAL CREDITS: 35

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Food Service Assistant diploma.

Possible Careers: Cook, Assistant Cook, Short-Order Cook, Line Cook, Deli Cook, Assistant Baker, Pantry Person, Corporate Dining Room Cook

Culinary Management

ASSOCIATE DEGREE
Program Code: 10-317-1

Downtown Milwaukee and Oak Creek campuses

This Associate in Applied Science degree program blends cooking skills with knowledge of restaurant operations, accounting and marketing. Students obtain a solid foundation of introductory culinary skills and explore the latest techniques. On the business side, students develop leadership skills, plus gain knowledge of profitable fiscal management.

Students select either the Culinary Management or the Dietetic Manager emphasis. After completing this program, you can earn the Culinary Arts degree by taking two additional semesters.

Career Pathway

You can earn the Food and Beverage Management technical diploma on your way to completing this degree.

Career Outlook

Culinary management jobs are increasing in restaurants, full-service grocery stores, healthcare facilities, hotels and private clubs.

Program Learning Outcomes

Upon completion of the program, graduates will be able to:

- Develop menus and ensure food quality
- Manage kitchen employees and operations
- Maintain safety and sanitation standards
- Maintain equipment and facilities
- Control operating expenses
- Manage customer relations

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Food and Beverage Management, Culinary Arts, Culinary Assistant, Baking and Pastry Arts, Baking Production, Hotel/Hospitality Management, Meeting and Event Management

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Assistant Restaurant Manager, Banquet Chef, Kitchen Manager, Sous Chef

TECHNICAL STUDIES

Credits

(1) HOTEL-105	Hospitality Marketing and Sales ^	2
(1) CULART-100	Introduction to Culinary Arts	1
(1) CULART-118	Sustainable Food Communities ^	1
(1) CULMGT-101	Menu Planning and Design ^	2
(1) CULART-121	Mise en Place/Culinary Fundamentals	1
(2) CULMGT-102	Food and Beverage Procurement ‡ ^	2
(2) CULART-126	Seafood/Shellfish Cookery	1
(2) CULART-123	Vegetables, Starches and Grains	2
(2) CULART-122	Stocks, Soups and Sauces	1
(2) CULART-124	Meat Identifications and Fabrications	1
(2) CULART-127	Center of the Plate-Meat Cookery	2
(2) CULMGT-115	Culinary Management Field Experience ‡	1
(3) HOTEL-124	Managerial Accounting for the Hospitality Industry ‡ ^	3
(3) CULART-112	Business/Industry Food Service/Catering 1	5
(3) CULMGT-117	Hospitality Law and Liability ^	3
(4) HOTEL-133	Supervision in the Hospitality Industry ^	2
(4) CULMGT-116	Culinary Management Practicum ^	2
(4) CULMGT-111	Catering Operations ^	3
(4) CULMGT-118	Hospitality Management and Leadership ^	2
(4) FLANG-111	Spanish for Restaurants	1
(4) CULMGT-140	Food and Beverage Operations ^	3

CHOOSE ONE EMPHASIS:

CULINARY MANAGEMENT

(1) CULART-119	Culinary Science ‡	1
(1) CULMGT-112	Food Service Sanitation ^	2
(2) CULMGT-105	Culinary Math and Cost Control ^	3
(3) CULART-113	Business/Industry Food Service/Catering 2 ‡	4

DIETETIC MANAGER

(1) DIETNT-118	Food Service Management 1: Coordinated Practice	1
(1) DIETNT-106	Food Service Sanitation	2
(2) DIETNT-108	Food Service Management 1	3
(3) DIETNT-151	Nutrition for Dietetics	4

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-172	Basic Nutritional Science	3
	(or) NATSCI-220 Introduction to Nutritional Science	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Food and Beverage Management diploma.

() = Semester order for full-time students.

Digital Forensics Analyst

TECHNICAL DIPLOMA **Program Code: 31-150-1** Mequon Campus

Enter the growing field of digital and computer forensics investigation. Coursework includes material from basic networking, basic security, network security, information systems auditing, risk management, and security procedures. Courses also cover specialized areas of forensics such as mobile forensics and internet forensics. Students can work toward getting AccessData Certified Examiner (ACE) or MPE+ (AccessData Mobile Phone Examiner Plus). Students also start preparation toward the following industry certifications: CompTIA Network+ (Net+), CompTIA Security+, Certified Information Systems Auditor (CISA). Students earn 24 credits toward the IT Information Systems Security Specialist associate degree upon completion of this diploma program. Students in that degree program are able to take three additional courses to obtain the Digital Forensics Analyst diploma.

Career Outlook

Due to increases in computer crimes, digital forensics analysis is expected to be a high-demand occupation.

Program Learning Outcomes

- Analyze and assess a cybercrime scene to choose appropriate best-practice procedures for retrieval, recovery and preservation of digital evidence
- Apply digital forensics tools to collect, analyze and evaluate evidence data
- Retrieve and recover files on various types of storage devices, using different operating and network systems
- Discuss the legal and ethical issues related to acquisition and analysis of digital evidence
- Investigate the collected evidence using digital-forensics investigation tools
- Investigate an incident by properly responding according to disaster recovery/business continuity plans
- Audit regularly the information systems, information security policies and digital investigation policies and procedures
- Communicate clearly, accurately and effectively, verbally and in writing
- Write detailed, court admissible digital-forensics investigation reports

Start Dates: August/January

For Information
414-297-6395, matc.edu



Admission Requirements

- High school diploma or GED
- High school-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

SIXTEEN-WEEK TERMS		Credits
ITSEC-114	Information Security Principles	3
ITNET-101	Network Communications (Network+)	3
ITSEC-120	Security Policies and Procedures	3
ITSEC-124	Network Security (Security+)	3
ITSEC-126	Computer Forensics	3
ITSEC-151	IT – Auditing	3
ITSEC-152	Information Security Risk Management	3
ITSEC-156	Mobile Devices Forensics.....	3
ITSEC-166	Advanced Forensics.....	3
ITSEC-176	Malware Forensics.....	3
ENG-151	Communication Skills 1 ‡	3
	(or) Any 200-series ENG course	

TOTAL CREDITS: 33

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Possible Careers: Desktop Security Support Specialist, Junior Digital Forensics Investigator/Analyst/Specialist, Junior IT Auditor, Junior IT Compliance Officer

eBusiness Strategist

TECHNICAL DIPLOMA

Program Code: 30-135-3

Oak Creek Campus; also offered entirely online

With instruction in marketing and interactive media, students prepare for a variety of positions in ebusiness enterprises. Your success in the program will be improved with proficiency in basic computer skills and familiarity with internet communications.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

After earning this diploma, the credits can be applied toward completing the eBusiness Technology Analyst associate degree.

Career Outlook

The rapid growth of internet-enabled devices has led to an increased demand for employees with skills in web development and social media marketing.

Program Learning Outcomes

- Understand business models underlying electronic commerce
- Research business and consumer markets to create ebusiness marketing strategies
- Analyze web traffic/SEO
- Design and publish a web page including writing and formatting copy for the document
- Use project management techniques
- Create and use relational databases
- Conduct cross-browser compatibility testing
- Demonstrate a working knowledge of computer software
- Utilize problem-solving and decision-making skills
- Demonstrate proficiency in the programming languages used to develop web pages
- Demonstrate familiarity with ebusiness systems
- Understand the uses of social media tools and concepts for ebusiness
- Develop a web/social media marketing plan
- Provide web customer service

Start Dates: August/January

For Information

414-297-6395, matc.edu



Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Typing skills are highly recommended

SIXTEEN-WEEK TERMS

	Credits
EBUS-174 Business Information Systems	3
EBUS-118 Social Media Technologies	3
(or) ITSOC-120 Social Media for Business	
VICOM-150 Introduction to Digital Media	3
BADM-134 Business Organization and Management	3
(or) MKTG-102 Marketing Principles	
EBUS-165 Web and Social Media Marketing	3
VICOM-128 Web Development with HTML/CSS	3
VICOM-123 Website Development ‡	3
VICOM-126 Mobile Web Development ‡	3

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: eBusiness Marketing Manager, eCommerce Marketing Manager, Social Media Strategist, Web Developer, Web Designer

eBusiness Technology Analyst

ASSOCIATE DEGREE

Program Code: 10-135-3

Oak Creek Campus; also offered entirely online

To prepare for positions in ebusiness enterprises, this Associate in Applied Science degree program combines coursework from the Interactive Media and the Marketing instructional departments. Students complete an internship or personal portfolio. Program success will be improved with proficiency in basic computer skills and familiarity with internet communications.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

Earn the Social Media Strategist or eBusiness Strategist technical diploma on your way to completing this degree.

Program Learning Outcomes

- Demonstrate a working knowledge of computer software
- Utilize problem-solving and decision-making skills
- Understand business models underlying ecommerce
- Research business and consumer markets to create ebusiness marketing strategies
- Analyze web traffic/SEO
- Design and publish a web page including writing and formatting copy for the document
- Demonstrate proficiency in the programming languages used to develop web pages
- Demonstrate familiarity with ebusiness systems
- Use project management techniques
- Create and use relational databases
- Understand the uses of social media tools and concepts for ebusiness
- Develop a web/social media marketing plan
- Conduct cross-browser compatibility testing
- Provide web customer service

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- Typing skills highly recommended

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: eBusiness Marketing Manager, Social Media Strategist, Web Developer, Web Designer

TECHNICAL STUDIES

Credits

(1) EBUS-174	Business Information Systems ^ 3 (or) COMPSW-106 Introduction to MS Office
(1) EBUS-118	Social Media Technologies ^ * 3 (or) ITSOC-102 Social Media for Business
(1) VICOM-150	Introduction to Digital Media ^ * 3
(1) BADM-134	Business Organization and Management ^ 3 (or) MKTG-102 Marketing Principles (or) ENTREP-101 Introduction to Entrepreneurship
(2) EBUS-165	Web and Social Media Marketing ^ * 3
(2) VICOM-128	Web Development with HTML/CSS ^ * 3
(3) ENTREP-104	Business Plan..... 3 (or) MKTG-144 Project Parameters and Proposals
(3) VICOM-123	Website Development ‡ ^ 3
(3) MKTG-173	Marketing Research ‡ 3
(3) VICOM-152	Interactive Design for Multimedia ‡ 3
(4) ACCTG-126	Accounting for Managers 3
(4) MKTG-175	Marketing Internship ‡ 1
(4) EBUS-191	CRM Customer Relationship Management * 3 (or) MKTG-104 Selling Principles (or) ITSOC-110 Community Management/Policies and Procedures
(4) VICOM-124	Content Management Systems ‡ * 3
(4) VICOM-125	Advanced Website Development ‡ 3 (or) ITDEV-160 Web Programming with JavaScript
(4) VICOM-126	Mobile Web Development ‡ ^ 3

GENERAL STUDIES

ECON-195	Economics..... 3 (or) Any 200-series ECON course
ENG-151	Communication Skills 1 ‡ 3
(&) ENG-152	Communication Skills 2 ‡ 3 (or) ENG-201 and any 200-series ENG or SPEECH course
MATH-123	Math with Business Applications ‡ 3 (or) Any 200-series MATH course
NATSCI-167	Science of Technology 3 (or) NATSCI-149 Intro to Geographical Information Systems (or) Any 200-series NATSCI course
PSYCH-199	Psychology of Human Relations 3 (or) Any 200-series PSYCH course
SOCSCI-197	Contemporary American Society 3 (or) Any 200-series SOCSCI or HIST course

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

MKTG-107	Customer Service Management
MKTG-185	Negotiation Skills for Business
BADM-145	Small Business Management

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the eBusiness Strategist diploma.

* Counts toward earning the Social Media Strategist diploma.

() = Semester order for full-time students.

Entrepreneurship

TECHNICAL DIPLOMA

Program Code: 31-145-2

Downtown Milwaukee Campus; also offered entirely online

This program prepares individuals to unite their passion for their work in the arts or in the trades with a viable business model. It also benefits those with a desire to own and operate their own business, and is useful for individuals seeking new skills in their current jobs, career advancement or a job change. Students have access to the Entrepreneurship Center located at the Downtown Milwaukee Campus, which presents a collaborative, interdepartmental work approach.

Some abilities that will enhance success in the program include listening to and understanding suggestions from others, and being able to see the business on a small scale as well as a large scale. Entrepreneurs also must be comfortable learning new concepts and using new tools.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Entrepreneurship certificate on your way to completing this diploma.

Career Outlook

As entrepreneurs develop trends and capitalize on opportunities that their larger counterparts do not see, new ventures will arise for entrepreneurs to succeed.

Program Learning Outcomes

- Understand the role of the entrepreneur
- Understand the components of a business plan
- Critique and analyze business plans in order to evaluate for breadth, depth and viability
- Develop and complete a comprehensive business plan

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Entrepreneurship certificate, eBusiness Strategist

Start Dates: August/January/June

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

ENTREP-101	Introduction to Entrepreneurship ^	3
ENTREP-102	New Product Development	3
ENTREP-103	Strategic Business Communication 1	3
ENG-151	Communication Skills 1 ‡	3
	(or) Any 200-series ENG or SPEECH course	
ACCTG-110	Financial Accounting	3
	(or) ACCTG-111 Accounting 1	
ENTREP-104	Business Plan ^	3
ENTREP-105	Strategic Business Communication 2 ‡	3
BADM-165	Legal Environment of Business.....	3
BADM-126	Business Finance	3
	(or) BADM-104 Business Statistics ‡	
ENG-152	Communication Skills 2 ‡	3
	(or) Any 200-series ENG or SPEECH course	

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Entrepreneurship certificate.

Possible Careers: Entrepreneur, Business Owner, Manager

Environmental Health and Water Quality Technology

ASSOCIATE DEGREE

Program Code: 10-506-1

Mequon Campus

This program promotes environmental protection, improvement and sustainability, with a focus on protecting our water, food and air resources. Hands-on coursework in this Associate in Applied Science degree program includes water purification, water reclamation, environmental biology, water quality analysis, hazardous materials, and food and dairy quality control. An interest in protecting the environment and human health from biological, chemical and physical hazards will contribute to your success.

Career Pathway

You can earn the Water Technician certificate on your way to completing this degree.

Career Outlook

Program graduates will have a solid foundation for a range of career opportunities that include the application of regulations and procedures to identify, evaluate, and control hazards. Graduates are employed in a wide variety of positions in private industry, environmental consulting firms and government agencies.

Program Learning Outcomes

Employers will expect graduates to:

- Identify, monitor and evaluate environmental health hazards
- Apply regulations and guidelines
- Utilize current technology
- Use effective oral and written communication skills
- Organize and maintain records and reports
- Demonstrate effective problem-solving abilities

Admission Requirements

- A high school diploma or GED
- One semester of high school-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Water Technician certificate,
Sustainable Facilities Operations

Start Date: August

For Information

414-297-6395, matc.edu

TECHNICAL STUDIES

Credits

(1) ENVHEL-101	Introduction to Environmental Health	3
(1) ENVHEL-102	Environmental Biology	4
(1) ENVHEL-109	Applied Environmental Chemistry ^	4
(2) ENVHEL-142	Principles of Water Resources ^	3
(2) ENVHEL-145	Water/Wastewater Operations – Municipal	3
(2) ENVHEL-173	Environmental Bacteriology	3
(3) ENVHEL-104	Industrial Hygiene Technology ‡	4
(3) ENVHEL-111	Applied Water Chemistry and Analysis ‡	4
(3) ENVHEL-115	Air Pollution Technology ‡	4
(3) ENVHEL-146	Water/Wastewater Operations – Industrial ‡	2
(4) ENVHEL-105	Fundamentals of Hazardous Materials Control ‡	4
(4) ENVHEL-119	Food and Dairy Quality Control ‡	3
(4) ENVHEL-143	Interpersonal Communication Skills and Environmental Management ‡	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-series MATH course	
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: FIVE CREDITS NEEDED

ENVHEL-126	Environmental Lab Projects ‡	
ENVHEL-127	Environmental Field Projects ‡	
PHYED-210	An Active Approach to Wellness and Fitness	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Water Technician certificate; additional course is required, see the certificate programs at the end of this School of Business section.

() = Semester order for full-time students.

Fashion Marketing Specialist

TECHNICAL DIPLOMA

Program Code: 30-104-4

Oak Creek Campus

Design a career that combines your interests in fashion, merchandise trends, sales and marketing. Through coursework in visual merchandising, customer service, marketing and selling principles, communication and basic computer software skills, this program prepares students for fashion retail opportunities in a variety of settings.



Career Pathway

After earning this diploma, the credits can be applied toward completing the Fashion/Retail Marketing associate degree.

Career Outlook

For fashion retail positions, the projected national job growth through 2020 is expected to be 17%. Projected Wisconsin job growth during this period is expected to be 11%.

Program Learning Outcomes

Employers will expect graduates to:

- Describe merchandise and demonstrate/explain use, operation, and care of merchandise to customers
- Recommend, select and help locate or obtain merchandise based on customer needs and desires
- Compute sales prices, total purchases, and receive and process cash or credit payment
- Prepare sales slips or sales contracts
- Maintain knowledge of current sales and promotions, policies regarding payment and exchanges, and security practices
- Maintain records related to sales

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Fashion/Retail Marketing, Retail Marketing Specialist

SIXTEEN-WEEK TERMS

	Credits
MKTG-102 Marketing Principles	3
COMPSW-106 Introduction to MS Office	3
MKTG-124 Apparel Marketing	3
MKTG-119 Visual Merchandising	3
MKTG-107 Customer Service Management	3
MKTG-140 Fashion Analysis	3
MKTG-104 Selling Principles	3
ENG-151 Communication Skills 1 ‡	3
(or) ENG-201 English 1	

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August/January

For Information

414-297-6395, matc.edu

Fashion/Retail Marketing

ASSOCIATE DEGREE

Program Code: 10-104-4

Oak Creek Campus

(Official WTCS title: Fashion Marketing)

Prepare for a career marketing specialty shops, stores and boutiques through this Associate in Applied Science degree program. The program's fashion marketing courses emphasize the creative aspects of selling apparel, and the retail management courses present the managerial and financial aspects of retailing. Students complete a one-year internship for hands-on experience in a fashion or retail organization.

Career Pathway

You can earn the Fashion Marketing Specialist and Retail Marketing Specialist technical diplomas on your way to completing this degree.

Career Outlook

Trained fashion/retail applicants are continually recruited for supervisory and merchandising positions for many different types of retailers. Core skills include an ability to communicate well, and the demonstration of self-initiative and creativity.

Program Learning Outcomes

Employers will expect program graduates to:

- Manage marketing within a fashion/retail enterprise
- Demonstrate customer relations, interpersonal relations and supervisory skills
- Exhibit self-initiative and gain knowledge about retail markets, prices and trends
- Apply technology to merchandise management
- Use creativity in developing promotional concepts
- Utilize problem-solving and decision-making skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Fashion Marketing Specialist, Retail Marketing Specialist, Business Management, Marketing Management, Supply Chain Management

Start Dates: August/January

For Information

414-297-6395, matc.edu

TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office ^ *	3
(1) MKTG-102	Marketing Principles ^ *	3
(1) MKTG-104	Selling Principles ^ *	3
(1) MKTG-124	Apparel Marketing ^	3
(1) MKTG-151	Business Career Management	1
(2) MGTDEV-191	Supervision *	3
(2) MKTG-106	Retail Management ‡ *	3
(2) MKTG-107	Customer Service Management ^ *	3
(2) MKTG-109	Textiles	3
(2) MKTG-125	Advertising ‡	3
(3) MKTG-119	Visual Merchandising ^ *	3
(3) MKTG-175	Marketing Internship 1 ‡	1
(4) ACCTG-110	Financial Accounting	3
(4) MKTG-176	Marketing Internship 2 ‡	1

Choose one emphasis:

RETAIL MANAGEMENT EMPHASIS

(3) BADM-145	Small Business Management ‡	3
(3) MGTDEV-164	Personal Skills for Supervisors	3

FASHION MARKETING EMPHASIS

(3) MKTG-140	Fashion Analysis ^	3
(3) MKTG-145	Special Event Management	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^ *	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-149	Intro to Geographical Information Systems ‡	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED

EBUS-118	Social Media Technologies
MKTG-173	Marketing Research ‡

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Fashion Marketing Specialist diploma.

* Counts toward earning the Retail Marketing Specialist diploma.

() = Semester order for full-time students.

Financial Services

TECHNICAL DIPLOMA

Program Code: 31-114-3

Downtown Milwaukee and West Allis campuses; also offered entirely online

Begin your business career by learning accounting and financial principles for employment in banks, credit unions, insurance and consumer finance companies, and corporate finance departments. This program equips students with the skills and knowledge for entry-level financial services positions.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

You can earn the Financial Services Trainee certificate on your way to completing this program. After earning this diploma, the credits can be applied toward completing the Banking and Financial Services associate degree.

Career Outlook

Program graduates will have a solid foundation for a range of career opportunities within the industry, including credit specialist, insurance sales agent, customer service representative and loan specialist.

Program Learning Outcomes

Employers will expect program graduates to:

- Exhibit knowledge and understanding of banking and financial transactions
- Demonstrate knowledge and understanding of accounting concepts
- Apply selling skills
- Employ problem-solving and decision-making skills
- Demonstrate appropriate application of financial tools

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Financial Services Trainee, Banking and Financial Services, Business Management, Entrepreneurship, Marketing Management

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

FIN-120	Introduction to Money, Banking and Financial Markets ^ ..	3
COMPSW-106	Introduction to MS Office ^	3
ACCTG-111	Accounting 1 ^	4
RBUS-102	Mathematics of Business.....	3
ENG-151	Communication Skills 1 ‡	3
FIN-122	Investment Principles ‡	3
FIN-170	Credit Management Procedures.....	3
BADM-192	Risk Management and Insurance	3
MKTG-104	Selling Principles ^	3

TOTAL CREDITS: 28

‡ Prerequisite required.

^ Counts toward earning the Financial Services Trainee certificate.

Program curriculum requirements are subject to change.

Food and Beverage Management

TECHNICAL DIPLOMA

Program Code: 31-317-2

Downtown Milwaukee and Oak Creek campuses

To take a step forward in your career, this program provides leadership skills to build and motivate a kitchen team. Coursework also includes learning the principles behind profitable fiscal management, such as analysis of financial reports and budget planning. Students should have a solid culinary foundation and be currently employed as a line cook, sous chef or chef.

Career Pathway

Earn the Food Service Team Leader diploma on your way to completing this program. After earning the Food and Beverage Management diploma, the credits can be applied toward the Culinary Management associate degree.

Career Outlook

Graduates will be better positioned for advancement in the industry. Employers include restaurants, hotels, private clubs, cruise ships, and institutional food service operations. Manager positions are expected to increase in healthcare and elder care facilities.

Program Learning Outcomes

Employers will expect graduates to:

- Display competence in developing menus
- Manage kitchen employees and operations
- Ensure food quality, safety and sanitation standards
- Display an ability to control operating expenses
- Maintain equipment and facilities

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Culinary Management, Baking and Pastry Arts, Baking Production, Culinary Arts, Culinary Assistant, Meeting and Event Management, Hotel/Hospitality Management, Food Service Assistant, Food Service Team Leader

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

CULMGT-101	Menu Planning and Design ^	2
HOTEL-105	Hospitality Marketing and Sales	2
HOTEL-124	Managerial Accounting for Hospitality Industry ‡	3
CULMGT-112	Food Service Sanitation ^	2
CULART-118	Sustainable Food Communities	1
ENG-151	Communication Skills 1 ‡	3
CULMGT-116	Culinary Management Practicum	2
CULMGT-117	Hospitality Law and Liability	3
CULMGT-118	Hospitality Management Leadership	2
CULMGT-102	Food and Beverage Procurement ‡ ^	2
CULMGT-140	Food and Beverage Operations	3
CULMGT-105	Culinary Math and Cost Control	3
CULMGT-111	Catering Operations	3
HOTEL-133	Supervision in the Hospitality Industry ^	2

TOTAL CREDITS: 33

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Food Service Team Leader diploma.

Food Manufacturing and Processing Technician

TECHNICAL DIPLOMA

Program Code: 31-623-1

Downtown Milwaukee Campus

Gaining skills related to chemical laboratory and manufacturing processes, students prepare for careers in the design and operation of food and beverage production facilities. Courses focus on food safety and quality assurance, the manufacturing process, plus skills needed to succeed in a business environment.



Career Pathway

After earning this diploma, the credits can be applied toward completing the Food Science Technology associate degree.

Career Outlook

The Milwaukee region is on the forefront of urban agriculture and food-ingredients manufacturing, and is a world leader in organic production and probiotics. From thriving local artisans and processors, to headquarter operations of global food companies, there is a strong future for a career in food manufacturing and processing.

Program Learning Outcomes

Employers will expect graduates to:

- Apply appropriate regulations and guidelines
- Identify, monitor, evaluate and report health and sanitation hazards
- Demonstrate ability to set up, operate and monitor production processes
- Apply good manufacturing processes
- Apply tactics and strategies in utilization of quality improvement processes
- Organize and maintain records and reports
- Utilize current technology
- Use effective oral and written communication skills

Admission Requirements

- A high school diploma or GED
- High school-level algebra, geometry or physics
- High school-level biology or chemistry
- Demonstration of proficiency in basic skills through a course placement assessment

Related Program

Food Science Technology

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

CHEMT-101	Chemical Laboratory/Process Safety	2
ENVHEL-173	Environmental Bacteriology.....	3
FSTEC-107	Manufacturing Food Process and Schematics and Blueprints	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3
NATSCI-186	Introductory Biochemistry ‡ (or) NATSCI-211 Chemistry 1	4
ENVHEL-119	Food and Dairy Quality Control ‡	3
ENG-152	Communication Skills 2 ‡ (or) ENG-202 English 2	3
FSTEC-101	HAACP for Food Manufacturing.....	4
FSTEC-102	Core Manufacturing Skills	2
FSTEC-103	Manufacturing Processes and Lab Science	2
MATH-115	College Technical Mathematics 1 ‡	5
QETECH-146	Quality Management Systems and Standards ‡	3
FSTEC-104	Food Processing Regulations and Sanitation/Sterilization	3

TOTAL CREDITS: 40

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Food Processing Operator, Blender, Mixer, Machine Operator, Filler Operator, Process Operator, Motor Operator

Food Science Technology

ASSOCIATE DEGREE

Program Code: 10-623-4

Downtown Milwaukee Campus

Prepare to work in the areas of food science and quality assurance, in the food and beverage manufacturing industry, through this Associate in Applied Science degree program. Food scientists and technologists help ensure food safety and improve food products. They rely on knowledge of a variety of sciences, such as chemistry, biology and biotechnology, to develop innovative ways to preserve, package, store and deliver foods. Coursework also focuses on developing skills needed for success in a business environment.

Career Pathway

Earn the Food Manufacturing and Processing Technician technical diploma on your way to completing this degree.

Career Outlook

Opportunities in food science are expected to grow as new products are developed using biotechnology. Manufacturing companies employ about 20% of the total number of food scientists and technologists, working mainly in food and pharmaceutical manufacturing.

Program Learning Outcomes

Employers will expect graduates to:

- Perform quality tests
- Demonstrate safety standards
- Demonstrate how to improve production processes
- Apply tactics and strategies in utilization of quality processes
- Apply appropriate regulations and guidelines
- Identify, monitor, evaluate and report health and sanitation hazards
- Determine production composition
- Utilize current technology
- Organize and maintain records

Admission Requirements

- A high school diploma or GED
- High school-level algebra, geometry or physics
- High school-level biology or chemistry
- Course placement assessment of basic skills proficiency

Start Dates: August/January

For Information

414-297-6395, matc.edu



Related Program

Food Manufacturing and Processing Technician

TECHNICAL STUDIES

Credits

(1) CHEMT-101	Chemical Laboratory/Process Safety ^	2
(1) ENVHEL-173	Environmental Bacteriology ^	3
(1) FSTEC-107	Manufacturing Food Process and Schematics and Blueprints ^	3
(2) FSTEC-101	HAACP for Food Manufacturing ^	4
(2) ENVHEL-119	Food and Dairy Quality Control ‡ ^	3
(2) FSTEC-102	Core Manufacturing Skills ^	2
(2) FSTEC-103	Manufacturing Processes and Lab Science ^	2
(3) CHEMT-105	Introduction to Instrumental Methods.....	3
(3) ELCTEC-102	Introductory Electronics ‡	3
(3) FSTEC-104	Food Processing Regulations and Sanitation/Sterilization ^	3
(3) FSTEC-105	Industry Practicum	3
(3) FSTEC-137	Fundamentals of Biotechnology	4
	(or) NATSCI-237 Introduction to Biotechnology	
(4) FSTEC-106	Manufacturing Applications Using STEM.....	3
	(or) NATSCI-265 STEM Applications in Manufacturing	
(4) QETECH-146	Quality Management Systems and Standards ‡ ^	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡ ^	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Mathematics 1 ‡ ^	5
	(or) Any 200-series MATH course	
NATSCI-186	Introductory Biochemistry ‡ ^	4
	(or) NATSCI-211 Chemistry 1	
NATSCI-172	Basic Nutritional Science	3
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

ELECTIVES: THREE CREDITS NEEDED 3

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Food Manufacturing and Processing Technician diploma.

() = Semester order for full-time students.

Possible Careers: Laboratory Technician, Quality Assurance Technician, Process Technician, Quality Assurance Inspector

Food Service Assistant

TECHNICAL DIPLOMA

Program Code: 30-316-1

Downtown Milwaukee, Oak Creek campuses

This one-semester program helps students develop skills to pursue a career in the food-service industry such as restaurants, catering services, hotels, healthcare facilities and schools. Students learn to prepare and cook-to-order a variety of foods that require a short preparation time.

Career Pathway

After completing this program, the credits can be applied toward earning the Culinary Assistant technical diploma.

Career Outlook

Graduates gain entry-level skills to be prep cook, short-order cook or fast-food cook. With experience and completion of Culinary Assistant diploma and Culinary Arts associate degree, opportunities exist for advancement to sauté cook, banquet cook, catering cook, broiler cook, fry cook.

Program Learning Outcomes

- Clean food prep areas, cooking surfaces, utensils
- Clean, stock and restock workstations and display cases
- Cook and package batches of food, such as hamburgers and fried chicken, which are prepared to order or kept warm until sold
- Cook items ordered by each customer, working on several orders simultaneously
- Maintain sanitation, health and safety standards in work areas
- Accept payments, and make change or write charge slips
- Clean food preparation equipment, work areas and counters or tables
- Complete orders from steam tables, placing food on plates and serving customers at tables or counters
- Grill and garnish hamburgers or other meats such as steaks and chops
- Grill, cook and fry foods such as french fries, eggs, pancakes
- Assist cooks and kitchen staff with various tasks as needed, and provide cooks with needed items
- Butcher and clean fowl, fish, poultry and shellfish to prepare for cooking or serving
- Carry food supplies, equipment and utensils to and from storage and work areas
- Cut, slice or grind meat, poultry and seafood to prep for cooking

Start Dates: August/January

For Information

414-297-6395, matc.edu

 **MILWAUKEE AREA Technical College**
School of BUSINESS

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

SIXTEEN-WEEK TERMS

	Credits
CULMGT-112 Food Service Sanitation.....	2
CULART-121 Mise en Place/Culinary Fundamentals	1
CULART-123 Vegetables, Starches and Grains	2

TOTAL CREDITS: 5

Program curriculum requirements are subject to change.

Possible Careers: Fast-Food Cook, Prep Cook, Short-Order Cook

Food Service Team Leader

TECHNICAL DIPLOMA

Program Code: 30-317-2

Downtown Milwaukee, Oak Creek campuses

School of Business

Designed for those interested in pursuing management careers in the food-service industry, this one-semester program focuses on skills to supervise and coordinate the activities of workers engaged in preparing and serving food. Students will be prepared to work in a variety of food-service environments including restaurants, bakeries, catering services, delis, hotels, resorts, healthcare facilities and schools.

Career Pathway

After earning this diploma, credits can be applied toward completing the Food and Beverage Management diploma and Culinary Management associate degree programs.

Career Outlook

Program graduates gain entry-level skills to be employed as a first-line supervisor of food preparation and serving workers. With experience and completion of a Culinary Management associate degree, opportunities exist for advancement to the positions of assistant restaurant manager, kitchen manager, banquet chef or sous chef.

Program Learning Outcomes

Employers will expect program graduates to:

- Train workers in food preparation, service, sanitation and safety procedures
- Compile and balance cash receipts at the end of the day or shift
- Perform various financial activities such as cash handling, deposit preparation and payroll
- Supervise and participate in kitchen and dining area cleaning activities
- Estimate ingredients and supplies required to prepare a recipe
- Resolve customer complaints regarding food service
- Control inventories of food, equipment, smallware and liquor, and report shortages to designated personnel
- Purchase or requisition supplies and equipment needed to ensure quality and timely delivery of services
- Observe and evaluate workers and work procedures to ensure quality standards and service, and complete disciplinary write-ups
- Specify food portions and courses, production and time sequences, and workstation and equipment arrangements

Start Dates: August/January

For Information

414-297-6395, matc.edu

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

SIXTEEN-WEEK TERMS

Credits

CULMGT-112	Food Service Sanitation.....	2
CULMGT-102	Food and Beverage Procurement ‡	2
CULMGT-101	Menu Planning and Design	2
HOTEL-133	Supervision in the Hospitality Industry	2

TOTAL CREDITS: 8

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Hotel/Hospitality Management

ASSOCIATE DEGREE
Program Code: 10-109-1

Downtown Milwaukee Campus

This Associate in Applied Science degree program is designed specifically for the general hospitality industry. It emphasizes the education, experience and skill development needed for mid-management/supervisory levels of employment in the hotel/motel industry. Skills and aptitudes necessary for success in the program are a service orientation, willingness to learn, and stamina to work long hours including evenings, weekends and holidays.

Although this is a day program, selected courses are scheduled for evenings and weekends on a rotating basis; accelerated and online options are offered for some courses. You will be required to complete an internship in the course HOTEL-130.

Dual Degree Option

Add courses to this program to earn associate degrees in both Hotel/Hospitality Management and Meeting and Event Management. See your advisor for details.

Career Pathway

You can earn the Lodging and Hospitality Assistant certificate on your way to completing this degree.

Career Outlook

You will be prepared for employment in one of the fastest growing segments of the nation's economy.

Program Learning Outcomes

Employers will expect graduates to demonstrate:

- Front desk skills including the efficient operation of telephone, switchboard, cash register, calculator and reservation computer
- Housekeeping staff management capability
- Overall food and beverage management skills
- Sales, marketing and product merchandising skills
- General knowledge of building operations; energy efficiency; and maintenance of electrical, heating, and air conditioning systems
- Fundamentals of hotel/motel accounting, financial statements, auditing and managerial financing

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Conference Manager, Front Office Manager, Hospitality Supervisor, Hotel Administrator, Hotel/Motel Manager, Innkeeper

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Students must be actively involved in the hospitality industry on a part-time basis while attending MATC

TECHNICAL STUDIES

Credits

(1) CULMGT-112	Food Service Sanitation.....	2
(1) CULMGT-140	Food and Beverage Operations	3
(1) MEET-151	Introduction to Hospitality/Tourism.....	3
(1) HOTEL-105	Hospitality Marketing and Sales ^	2
(2) HOTEL-110	Front Office Procedures and Management ^	3
(2) HOTEL-122	Basic Hospitality Accounting	3
(2) CULMGT-117	Hospitality Law and Liability	3
(2) HOTEL-133	Supervision in the Hospitality Industry	2
(3) CULMGT-102	Food and Beverage Procurement ‡	2
(3) HOTEL-112	Front Office Computerized Procedures ‡	3
(3) HOTEL-124	Managerial Accounting for the Hospitality Industry ‡..	3
(3) HOTEL-150	Housekeeping Operations ^	2
(4) CULART-125	Culinary Skills for Baking/Hospitality ‡	5
(4) HOTEL-120	Building Operations and Security	3
(4) HOTEL-130	Internship in Hotel/Meeting Management ^	3
(4) MEET-178	Meeting and Convention Planning	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-172	Basic Nutritional Science	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

CULMGT-103	Beverage Service
FLANG-117	Conversational Spanish for Service Occupations 1
HOTEL-135	Professional Presence in Hospitality

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Lodging and Hospitality Assistant certificate.

() = Semester order for full-time students.

Human Resources

ASSOCIATE DEGREE

Program Code: 10-116-1

Downtown Milwaukee Campus

Gain entry-level skills in a variety of areas related to the human resources profession. Through this Associate in Applied Science degree program, students prepare for careers involving recruitment, selection, training and development, employee and labor relations, compensation and benefits.

Career Outlook

New legislation and court rulings revising standards in occupational safety and health, equal employment opportunity, wages, healthcare, family leave and retirement plans are expected to increase demand for human resources personnel and labor relations experts. Changes in healthcare coverage options and other benefits should continue to spur demand for specialists to develop compensation and benefits packages.

Program Learning Outcomes

Employers expect graduates to have knowledge and skills in:

- The foundation and appropriate administration of employment law
- Application of effective recruitment and selection processes
- Strategies for employee training and development
- The fundamentals of compensation and benefits administration
- Critical employee relations strategies and the labor relations process
- The importance of health, wellness and safety initiatives within an organization

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Business Management, Supervisory Management – Accelerated

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) HRMGT-193	Human Resource Management	3
(1) BADM-134	Business Organization and Management	3
(1) HRMGT-192	Strategic Management	3
(1) COMPSW-106	Introduction to Microsoft Office	3
	(or) COMPSW-137 & COMPSW-139 and OFTECH-128 & OFTECH-129	
(2) HRMGT-133	Legal Issues and Employment Law	3
(2) RBUS-102	Math of Business	3
(2) HRMGT-169	Diversity and Change Management	3
(2) HRMGT-196	Recruiting and Selection	3
(2) MGTDEV-190	Leadership Development	3
(3) MGTDEV-195	Managerial Communications	3
(3) HRMGT-197	Employee Training and Development ‡	3
(3) ACCTG-143	Payroll Accounting Applications	3
(3) HRMGT-198	Business Ethics	3
(4) HRMGT-194	Fundamentals of Compensation	3
(4) HRMGT-170	Employee Relations and Labor Relations	3
(4) HRMGT-136	Safety in the Workplace	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Affirmative Action and EEO Specialist, Benefits Specialist, Compensation Specialist, Employment Specialist, Recruitment Specialist

Individualized Technical Studies

ASSOCIATE DEGREE

Program Code: 10-825-1

All campuses

This Associate in Applied Science degree program is designed to meet specific educational needs of students, business and industry not currently served by other degree programs. The Individualized Technical Studies degree (ITSD) is a customized program for students who need to combine skills and knowledge from different disciplines to be productive in tomorrow's workforce.

This program can meet the career needs of adult learners and incumbent workers seeking to increase their skills and knowledge as they move toward a degree. The curriculum will be drawn from existing offerings at MATC. Note that at least 25% of the total program requirements must be earned at MATC.

This degree may be earned through the School of Business, Health Sciences, Liberal Arts and Sciences, Media and Creative Arts, or Technology and Applied Sciences.

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills proficiency through a course placement assessment
- Interview with the program coordinator to evaluate career goals and determine if the ITSD program is appropriate
- Develop a formal portfolio to document the process
- Establish degree requirements and a timeline for degree completion

Start Dates: August/January

For Information

Email: INDVTS@matc.edu

TECHNICAL STUDIES

INDVTS-102 Career Assessment and Portfolio Development **2**

OTHER COURSES: 37-39

GENERAL STUDIES

ECON-195 Economics **3**
(or) Any 200-series ECON course

ENG-151 Communication Skills 1 ‡ **3**

(&) ENG-152 Communication Skills 2 ‡ **3**
(or) ENG-201 and any 200-series ENG or SPEECH course

MATH-107 College Mathematics ‡ **3**
(or) MATH-113 Technical Mathematics 1A
(or) Any 200-series MATH course

NATSCI-167 Science of Technology **3**
(or) Any 200-series NATSCI course

PSYCH-199 Psychology of Human Relations **3**
(or) Any 200-series PSYCH course

SOCSCI-197 Contemporary American Society **3**
(or) Any 200-series HIST or SOCSCI course

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

PHYED-210 An Active Approach to Wellness and Fitness

TOTAL CREDITS: 63-65

‡ Prerequisite required.

Program curriculum requirements are subject to change.

A minimum of 25% of total program requirements must be earned at MATC.

IT Computer Support Specialist

ASSOCIATE DEGREE

Program Code: 10-154-3

Mequon, Oak Creek and West Allis campuses

This Associate in Applied Science degree program prepares you for industry-sought certifications including CompTIA's A+, Network+, Security+ and Mobility+ Device Administrators (iOS, Android and Windows), Microsoft Certified Professional in Windows Desktop, Microsoft Enterprise Desktop Support Technician (MCITP), Apple OSX Certified Support Professional (ACSP), HDI-SCA, HDI-DST, and ITIL Foundation.

Career Pathway

Four certificates that enable students to earn credits that transfer into this associate degree program are: IT Service Center Technician, Microsoft Enterprise Desktop Support, Level 2 - Service Center Technician and Advanced Technical Support. See the certificate programs listed at the end of this School of Business section.

Career Outlook

Employment opportunities are expected to grow dramatically. Typical job titles include junior help desk technician, junior support specialist, Apple support specialist, mobile device support specialist, network technician, desktop support specialist and IT field technician.

Program Learning Outcomes

Employers will expect graduates to:

- Demonstrate soft skills and customer service skills
- Apply analytical and problem-solving skills to resolve end user issues
- Install, configure and support desktop and server operating systems
- Configure and deploy Windows and OSX laptops and servers
- Administer and support iOS, Android and Windows smartphones and tablets
- Support, monitor and troubleshoot computers and computer networks
- Secure network devices to protect company assets

Related Programs

IT Information Systems Security Specialist, IT Network Specialist, IT Mobile Application Developer

Start Dates: August/January

For Information

414-297-6395, matc.edu

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

TECHNICAL STUDIES

Credits

(1) ITSUP-109	Microsoft Office for IT Professionals	3
(1) ITSUP-110	Supporting Microsoft Windows	3
	(or) ITNET-110 Manage Windows Desktop Client OS	
(1) ITSUP-101	Computer Information Systems Fundamentals	3
(1) ITNET-101	Network Communications (Network+)	3
(2) ITSUP-102	CompTIA A+ Essentials and IT Technician	4
(2) ITSEC-124	Network Security (Security+)	3
(2) ITSUP-140	Support Center Analyst (HDI-SCA, HDI-DST, ITIL).....	3
(2) ITSUP-108	Enterprise Desktop Support Technician	2
(3) ITSUP-155	IT Careers, Resume Writing and Job Search.....	3
(3) ITSUP-150	Mobile Device Repair and Support	3
(3) ITSUP-152	Apple OSX Certified Support Professional (ACSP)	3
(4) ITSUP-153	CompTIA Mobility+ (iOS, Android, Windows)	3
(4) ITSUP-177	IT Projects, Teamwork and Self-Management.....	3
(4) ITSUP-198	Computer Support Specialist Internship.....	2
(4) ITSUP-199	Integrated Project – Computer Support Specialist.....	1

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ITSUP-156	Cloud and Mobile Productivity Tools
ITNET-112	MS Server Administration
ITDEV-150	Database Management With SQL

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Junior Help Desk Technician, Apple Support Specialist, Mobile Device Support Specialist, IT Field Technician

IT Information Systems Security Specialist

ASSOCIATE DEGREE
Program Code: 10-150-4

Mequon Campus

To prepare for a career in computer network and internet security, students learn to develop information security strategies, perform risk analyses, install security software, monitor network traffic and develop an emergency response plan. This Associate in Applied Science degree program also provides background and hands-on experience in securing MS Windows, Unix/Linux, Cisco, networks, servers and clients, and the enterprise network. The program will prepare you to obtain an entry-level information technology position with possibilities for advancement. You will also be ready to take industry certification exams including Security+, MCSA, MCP, Network+, I-Net+ and CISSP Associate.

Accelerated Option

This program is also offered in an Accelerated format; see that program's page for information.

Career Outlook

Opportunities are growing due to the increased need for secure computer systems in industry and business.

Program Learning Outcomes

- Troubleshoot and diagnose security issues
- Conduct security audits and penetration testing
- Assist in developing and implementing security plans and procedures
- Assist in developing and presenting security awareness
- Evaluate, recommend and install security hardware and software
- Monitor computer systems to detect inappropriate use
- Develop incident, disaster recovery, business continuity and emergency response plans

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Microsoft Windows or Macintosh operating system skills
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

IT Computer Support Specialist, IT Network Specialist, IT Mobile Application Developer, Digital Forensics Analyst

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

	Credits
(1) ITSEC-114 Information Security Principles	3
(1) ITNET-101 Network Communications (Network+)	3
(1) ITSEC-120 Security Policies and Procedures	3
(2) ITSEC-191 Information Security Internship 2	1
(or) ITSEC-194 Security Project Implementation	
(2) ITSEC-124 Network Security (Security+).....	3
(2) ITNET-112 MS Server Administration 1	3
(2) ITNET-161 Linux Overview	2
(3) ITNET-111 MS Server Administration 2.....	3
(3) ITSEC-136 Unix/Linux Administration and Security	3
(3) ITSEC-140 Router Security.....	3
(3) ITSEC-145 Perimeter Security.....	3
(3) ITSEC-148 Securing Wireless Devices and Networks	3
(4) ITSEC-122 Web/Application Security.....	3
(4) ITSEC-146 Security Measures and Intrusion Detection	3
(4) ITSEC-152 Information Security Risk Management.....	3
(4) ITSEC-126 Computer Forensics	3

GENERAL STUDIES

ECON-195 Economics.....	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡.....	3
(&) ENG-152 Communication Skills 2 ‡.....	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123 Math with Business Applications ‡	3
(or) Any 200-series MATH course	
NATSCI-167 Science of Technology.....	3
(or) Any 200-series NATSCI course	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ITNET-139 Network Routing and Switching	
COMPSW-106 Introduction to MS Office	
ITSEC-151 IT - Auditing	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Junior Network Engineer/Analyst/Specialist, Junior Security Engineer/Analyst/Specialist, Desktop Security Support Specialist

IT Information Systems Security Specialist – Accelerated

ASSOCIATE DEGREE

Program Code: 10-150-4.AA

Mequon Campus

Students enrolled in the Accelerated program may complete all Technical Studies courses in less than 18 months. In the accelerated format, classes meet four and one-half hours per week during the school year and are offered online in the summer. To earn the Associate in Applied Science degree, General Studies courses must be completed in addition to the accelerated schedule of Technical Studies courses.

To prepare for a career in computer network and internet security, students learn to develop information security strategies, perform risk analyses, install security software, monitor network traffic and develop an emergency response plan. Coursework provides background and hands-on experience in securing MS Windows, Unix/Linux, Cisco, networks, servers and clients, and the enterprise network.

This program will prepare you to obtain an entry-level information technology position with possibilities for advancement. You will also be ready to take industry certification exams including Security+, MCSA, MCP, Network+, I-Net+ and CISSP Associate.

Career Outlook

Opportunities are growing due to the increased need for secure computer systems in industry and business.

Program Learning Outcomes

- Troubleshoot and diagnose security issues
- Conduct security audits and penetration testing
- Assist in developing and implementing security plans and procedures
- Assist in developing and presenting security awareness
- Evaluate, recommend and install security hardware and software
- Monitor computer systems to detect inappropriate use
- Develop incident, disaster recovery, business continuity and emergency response plans

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment
- Microsoft Windows or Macintosh operating system skills

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) ITSEC-114	Information Security Principles	3
(1) ITNET-101	Network Communications (Network+)	3
(1) ITSEC-120	Security Policies and Procedures	3
(2) ITSEC-191	Information Security Internship 2	1
	(or) ITSEC-194 Security Project Implementation	
(2) ITSEC-124	Network Security (Security+).....	3
(2) ITNET-112	MS Server Administration 1	3
(2) ITNET-161	Linux Overview	2
(3) ITNET-111	MS Server Administration 2.....	3
(3) ITSEC-136	Unix/Linux Administration and Security	3
(3) ITSEC-140	Router Security.....	3
(3) ITSEC-145	Perimeter Security.....	3
(3) ITSEC-148	Securing Wireless Devices and Networks	3
(4) ITSEC-122	Web/Application Security.....	3
(4) ITSEC-146	Security Measures and Intrusion Detection	3
(4) ITSEC-152	Information Security Risk Management.....	3
(4) ITSEC-126	Computer Forensics	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology.....	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ITNET-139	Network Routing and Switching
COMPSW-106	Introduction to MS Office
ITSEC-151	IT - Auditing

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Sequence for Accelerated students.

Possible Careers: Junior Network Engineer/Analyst/Specialist, Junior Security Engineer/Analyst/Specialist, Desktop Security Support Specialist

IT Mobile Application Developer

ASSOCIATE DEGREE
Program Code: 10-152-8

Downtown Milwaukee and Mequon campuses

Create engaging and functional mobile applications. Through this Associate in Applied Science degree program, you will gain skills in software development with an emphasis on creating mobile applications. Students learn essential object-oriented programming skills while developing mobile applications for iOS and Android platforms. A required internship provides you with beginning work experience. A dual-boot Mac computer is recommended for this program.

Career Outlook

There is a growing need for qualified mobile application developers. Graduates of this program also may find employment opportunities in programming, or operations and systems analysis.

Program Learning Outcomes

Employers expect graduates to:

- Create software applications using the leading industry object-oriented programming languages
- Participate in software development projects using the leading analysis, design and management techniques
- Create adaptable, responsive database-driven websites that will run on various mobile devices
- Create native mobile applications on the Android and Apple iOS platforms
- Solve problems individually and in a team environment

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

IT Web and Software Developer, IT Information Systems Security Specialist, IT Computer Support Specialist, IT Network Specialist, Mobile Designer

Start Dates: August/January

For Information

414-297-6395 or 414-297-8382, matc.edu



TECHNICAL STUDIES

Credits

(1) ITDEV-110	Introduction to Object-Oriented Programming.....	3
(1) ITDEV-117	Logic and Problem Solving	3
(1) IT-107	Social Networking and Business.....	3
(2) ITDEV-115	Intermediate Object-Oriented Programming	3
(2) ITDEV-150	Database Management With SQL ‡	3
(2) ITDEV-140	Programming With Java	3
(2) ITDEV-160	Web Programming With Scripts	3
(3) ITDEV-162	Client/Server and eCommerce Implementation ‡	3
(3) ITDEV-177	Systems Analysis and Design	3
(3) ITDEV-181	Mobile Application Development ‡	3
(3) ITDEV-185	Advanced Object-Oriented Programming	3
(4) ITDEV-184	iPhone and iOS Mobile Application Development	3
(4) ITDEV-154	Data Structures and Programming	3
(4) ITDEV-198	Internship	1
(4) ITDEV-199	Integrated Project	2

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ITDEV-151	Advanced SQL Using Oracle Database Tools
ITNET-101	Network Communications (Network+)
ITNET-110	Manage Windows Desktop Client OS

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Computer Programmer, Junior Programmer, Mobile Applications Developer, Programmer Trainee

IT Network Specialist

ASSOCIATE DEGREE

Program Code: 10-150-2

All campuses

Through hands-on coursework, you will set up network operating systems and equipment, and work with emerging technologies. This Associate in Applied Science degree program prepares you for an entry-level IT position, and you will be ready to take industry certification exams including VMware Certified Professional-Datacenter Virtualization (VCP-DCV), Cisco Certified Networking Associate (CCNA), Microsoft Certified Technology Specialist (MCTS) - Windows 7, MCTS - Windows Server 2012 Active Directory, MCTS - Windows Server 2012 Network Infrastructure, CompTIA A+, CompTIA Network+ and CompTIA Security+.

Keys to your success are keeping up with the latest technologies, having strong problem-solving skills and having the ability to work alone and with others in training and troubleshooting capacities.

Career Pathway

Earn the IT Networking and Infrastructure Administration technical diploma on your way to completing this degree.

Accelerated and Online Accelerated Options

See the IT Network Specialist – Accelerated page for details.

Program Learning Outcomes

- Install, configure and support desktop and server operating systems
- Install network hardware, software and operating systems
- Install, configure and manage virtualized environments
- Install and configure Active Directory
- Support, monitor and troubleshoot computers and computer networks
- Implement network security
- Control network access using firewalls, ACLs, VLANs

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Course placement assessment of basic skills proficiency

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) ITNET-101	Network Communications (Network+) ^	3
(1) IT-107	Social Networking and Business Communications	3
(1) ITNET-131	Introduction to Networks (Cisco 1) ^	3
(2) ITNET-110	Manage Windows Desktop Client OS ^	3
(2) ITNET-132	Routing/Switching Essentials (Cisco 2) ‡ ^	3
(2) ITSUP-102	CompTIA A+ Essentials and IT Technician	4
(2) ITNET-112	MS Server Administration 1 ^	3
(3) ITNET-133	Scaling Networks (Cisco 3) ‡ ^	3
(3) ITNET-111	MS Server Administration 2 ^	3
(3) ITNET-134	Connecting Networks (Cisco 4) ‡ ^	3
(3) ITNET-159	Cloud Infrastructure Services	3
(4) ITNET-198	Network Specialist Internship	2
(4) ITNET-199	Integrated Project - Network Specialist	1
(4) ITNET-157	Emerging IT Technologies ‡ ^	3
(4) ITSEC-124	Network Security (Security+)	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡ ^	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVE: THREE CREDITS NEEDED

ITNET-158	Storage Area Network (SAN)	

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the IT Networking and Infrastructure Administration technical diploma.

() = Semester order for full-time students.

Possible Careers: Cisco Certified Network Associate, Desktop Support Specialist, IT Field Technician, Junior Network Administrator, Network Specialist

IT Network Specialist – Accelerated

ASSOCIATE DEGREE

Program Code: 10-150-2.AA

Downtown Milwaukee Campus; also offered entirely online

You may choose to take this Accelerated program entirely online, or attend classes in person (meeting four and one-half hours per week during the school year; courses are offered online during the summer). Students may complete the Technical Studies courses in less than 18 months. To earn this Associate in Applied Science degree, General Studies courses must also be completed. Keys to your success are keeping up with the latest technologies, having strong problem-solving skills, and having the ability to work alone and with others in a training and troubleshooting capacity.

This program prepares you for entry-level IT positions and you will be ready to take industry certification exams including Cisco Certified Networking Associate (CCNA), Microsoft Certified Technology Specialist (MCTS) - Windows 7, MCTS - Windows Server 2012 Active Directory, MCTS - Windows Server 2012 Network Infrastructure, CompTIA A+, CompTIA Network+ and CompTIA Security+.

Career Pathway

Earn the IT Networking and Infrastructure Administration technical diploma on your way to completing this degree.

Program Learning Outcomes

Employers will expect graduates to:

- Install, configure and support desktop and server operating systems
- Install network hardware, software and operating systems
- Install, configure and manage virtualized environments
- Install and configure Active Directory
- Control network access using firewalls, ACLs, VLANs
- Support, monitor and troubleshoot computers and computer networks
- Implement network security

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Course placement assessment of basic skills proficiency
- Online Accelerated option also requires an interview, proof of broadband connection, and purchase of supplies to build a PC

Start Dates: August (in-person)/January (online)

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

	Credits
(1) ITNET-101 Network Communications (Network+) ^	3
(1) IT-107 Social Networking and Business Communications	3
(1) ITNET-131 Introduction to Networks (Cisco 1) ^	3
(2) ITNET-110 Manage Windows Desktop Client OS ^	3
(2) ITNET-132 Routing/Switching Essentials (Cisco 2) ‡ ^	3
(2) ITSUP-102 CompTIA A+ Essentials and IT Technician	4
(2) ITNET-112 MS Server Administration 1 ^	3
(3) ITNET-133 Scaling Networks (Cisco 3) ‡ ^	3
(3) ITNET-111 MS Server Administration 2 ^	3
(3) ITNET-134 Connecting Networks (Cisco 4) ‡ ^	3
(3) ITNET-159 Cloud Infrastructure Services	3
(4) ITNET-198 Network Specialist Internship	2
(4) ITNET-199 Integrated Project - Network Specialist	1
(4) ITNET-157 Emerging IT Technologies ‡ ^	3
(4) ITSEC-124 Network Security (Security+)	3

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123 Math with Business Applications ‡ ^	3
(or) Any 200-series MATH course	
NATSCI-167 Science of Technology	3
(or) Any 200-series NATSCI course	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVE: THREE CREDITS NEEDED

ITNET-158 Storage Area Network (SAN)	

TOTAL CREDITS: 67

‡ Prerequisite required.

^ Program curriculum requirements are subject to change.

^ Counts toward earning the IT Networking and Infrastructure Administration technical diploma.

() = Sequence for Accelerated students.

Possible Careers: Cisco Certified Network Associate, Desktop Support Specialist, IT Field Technician, Junior Network Administrator, Network Specialist

IT Networking and Infrastructure Administration

TECHNICAL DIPLOMA

Program Code: 31-150-2

Downtown Milwaukee Campus; also offered entirely online

School of Business

Prepare for a career in designing, installing, maintaining, troubleshooting and implementing security on computers, computer networks and network operating systems. Through hands-on activities, you will set up and configure network operating systems and network equipment such as servers, PCs, switches and routers, and work with emerging technologies such as machine virtualization. The program also prepares you for many industry-sought certifications including the VMware Certified Professional-Data Center Virtualization (VCP-DCV), Cisco Certified Networking Associate (CCNA), Microsoft Certified Technology Specialist (MCTS) - Windows 7, MCTS - Windows Server 2012 Active Directory, MCTS - Windows Server 2012 Network Infrastructure, CompTIA A+, CompTIA Network+ and CompTIA Security+. Keys to your success include keeping up with the latest technologies, having strong problem-solving skills, and having the ability to work alone and with others in training and troubleshooting capacities.

The courses in this diploma can be taken in a traditional face-to-face format, in an accelerated online format or in an accelerated face-to-face format.

Career Pathway

After earning this diploma, the credits can be applied toward completing the IT Network Specialist associate degree.

Program Learning Outcomes

- Implement and manage network security
- Install and upgrade network/server hardware, software and operating systems
- Support, monitor and maintain computers and computer networks
- Control network access using firewalls, ACLs, VLANs
- Implement methods to increase network performance
- Troubleshoot and resolve network problems
- Work with emerging technologies such as machine virtualization, wireless networking and VoIP
- Develop technical documentation
- Concentrate on detailed projects for long periods of time
- Solve problems individually and in a team environment

Start Dates: August/January

For Information

414-297-6395, matc.edu



Related Programs

IT Network Specialist, IT Network Specialist – Accelerated

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or one semester of college-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

SIXTEEN-WEEK TERMS

	Credits
ITNET-101 Network Communications (Network+).....	3
ITNET-131 Introduction to Networks (Cisco 1).....	3
ITNET-110 Manage Windows Desktop Client OS.....	3
ITNET-132 Routing/Switching Essentials (Cisco 2) ‡.....	3
ITNET-112 MS Server Administration 1	3
ITNET-157 Emerging IT Technologies ‡.....	3
ITNET-111 MS Server Administration 2	3
ITNET-133 Scaling Networks (Cisco 3) ‡.....	3
ITNET-134 Connecting Networks (Cisco 4) ‡.....	3
MATH-123 Math With Business Applications ‡	3

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Cisco Certified Network Associate, Desktop Support Specialist, IT Field Technician, Junior Network Administrator, Network Specialist

IT Web and Software Developer

ASSOCIATE DEGREE

Program Code: 10-152-7

Downtown Milwaukee and Mequon campuses

Create engaging and functional web pages. Through this Associate in Applied Science degree program, you will gain skills in software development with an emphasis on developing responsive, adaptive websites.

Students first learn to code in the object-oriented paradigm, learning data abstraction. With these essential programming skills, students learn how to create websites that respond to fit any screen size and adapt to multiple presentation layers. These websites will utilize client and server processing, connect to databases and run on multiple devices simultaneously; devices such as desktop computers, tablets, smartphones, smart glasses and television screens.

Attributes that will contribute to success include the ability to concentrate on details for long periods of time, the ability to work independently as well as on a team, and skills in analysis, problem-solving, effective communication, plus imagination and curiosity.

Career Outlook

There is a growing need for qualified web and software developers. Program graduates also may locate employment in programming, business analyst, and database management positions.

Program Learning Outcomes

- Create web and software applications using the leading industry object-oriented programming languages
- Participate in software development projects using the leading analysis, design and management techniques
- Create adaptable and responsive database-driven websites
- Create native web-based applications using ASP.NET and leading client-side technologies
- Solve problems individually and in a team environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

IT Mobile Application Developer, IT Information Systems Security Specialist, IT Computer Support Specialist, IT Network Specialist, Web Designer

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) ITDEV-110	Introduction to Object-Oriented Programming	3
(1) ITDEV-117	Logic and Problem Solving	3
(1) IT-107	Social Networking and Business	3
(1) ITSEC-122	Designing Secure Websites	3
(2) ITDEV-115	Intermediate Object-Oriented Programming ‡	3
(2) ITDEV-150	Database Management with SQL	3
(2) ITDEV-160	Web Programming with Scripts	3
(2) ITDEV-140	Programming with Java	3
(3) ITDEV-161	Web Programming 1	3
(3) ITDEV-162	Client/Server and eCommerce Implementation ‡	3
(3) ITDEV-186	Mobile Web and Responsive Design	3
(3) ITDEV-177	Systems Analysis and Design	3
(4) ITDEV-154	Data Structures and Programming	3
(4) ITDEV-164	Web Programming 2	3
(4) ITDEV-198	Internship	1
(4) ITDEV-199	Integrated Project	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVE: THREE CREDITS NEEDED

ITNET-101	Network Communications (Network+)
ITDEV-151	Advanced SQL Using Oracle Database Tools

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Software Developer, Web Application Developer, Business Analyst, Computer Programmer

Legal Administrative Professional – Accelerated

ASSOCIATE DEGREE

Program Code: 10-106-3.AA

Oak Creek Campus

This Accelerated program is designed for professional adults; you attend class one night each week, year-round. To earn this Associate in Applied Science degree, General Studies courses must be completed in addition to the accelerated schedule of Technical Studies courses. Graduates of the program work in the many areas of law including bankruptcy, business and corporate, criminal, divorce and family law, real estate and worker's compensation. Students learn legal ethics, confidentiality and professionalism; legal terminology and court structure; how to prepare legal documents using word processing, spreadsheet and database software; billing and managing financial records; and legal docket and case management software. Students will take a Legal Administrative Professional Internship course (OFTECH-192).

Keys to success are a firm grasp of English usage and an ability to express yourself orally and in writing. You should be highly proficient in spelling, punctuation, grammar, vocabulary and proofreading; have a pleasing telephone personality; and have an ability to work under pressure, meet deadlines and maintain confidentiality. A strong personal and professional code of ethics is essential.

Dual Degree Option

Take two additional courses to also earn the Administrative Professional – Accelerated associate degree.

You can also earn the Office Technology Assistant diploma on the way to completing this degree by adding OFTECH-165. See your advisor for details.

Program Learning Outcomes

- Demonstrate effective office/business communication
- Apply technology skills to business and administrative tasks
- Perform routine legal office procedures
- Manage legal projects
- Maintain business relationships
- Model professionalism in the law/business environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Two years of work experience (full-time or part-time)

Start Date: August

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) OFTECH-101	Windows and MS Word Keyboard Shortcuts ^	3
(1) OFTECH-103	Keyboard and Keypad ^	1
(1) OFTECH-122	Business English Essentials ^	3
(1) OFTECH-136	Keyboarding Skill Development 1 ‡ ^	1
(1) RBUS-102	Mathematics of Business	3
(1) RBUS-141	Legal Terminology and Court Structure	3
(2) OFTECH-102	Office Technologies ‡ ^	3
(2) OFTECH-119	Information Management ^	3
(2) BADM-165	Legal Environment of Business	3
(2) OFTECH-133	Business Document Production 1 ‡ ^	3
(5) OFTECH-134	Legal Document Production ‡	3
(5) ACCTG-102	Basic Office Accounting ^	3
(3) BADM-166	Advanced Legal Issues ‡	3
(3) OFTECH-147	Machine Transcription – Proofreading/Editing Legal ‡	3
(3) OFTECH-184	MS Office: Word, Excel, Access, PowerPoint ‡ ^	3
(3) OFTECH-164	Legal Office Procedures ‡	3
(4) RBUS-111	Business Communications ‡	3
(4) RBUS-180	Business Career Planning ^	1
(4) OFTECH-192	Legal Administrative Professional Internship ‡	1

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-167	Science of Technology	3
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Office Technology Assistant diploma; additional course (OFTECH-165) required for the diploma.

() = Sequence for Accelerated students.

Possible Careers: Legal Administrative Professional in Bankruptcy Law, Corporate Law, Civil Litigation, Criminal Law, Family Law, Probate Law

Marketing Management

ASSOCIATE DEGREE

Program Code: 10-104-3

Downtown Milwaukee, Mequon and Oak Creek campuses; also offered entirely online

(Official WTCS title: Marketing)

Develop a broad base of industry-required abilities and knowledge in advertising, sales, promotion, marketing research, channel management, internet and social media marketing, sales management and marketing management. This Associate in Applied Science degree program also helps students develop the communication, collaboration, critical thinking and technology skills that employers seek.

Online and Online Accelerated Options

Students may complete this degree entirely online, entirely on campus or combine online classes with on-campus classes. See the Marketing Management – Online Accelerated page for details on the accelerated format.

Career Pathway

You can earn the Marketing Management, Advertising Specialist and Sales Specialist technical diplomas on your way to completing this degree.

Career Outlook

Throughout the U.S., employment opportunities are expected to increase in marketing-related fields.

Program Learning Outcomes

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Prepare selling strategies
- Apply marketing technologies

Admission Requirements

- A high school diploma or GED
- Demonstrated keyboarding skills through exam or taking OFTECH-103 (Keyboard and Keypad)
- Course placement assessment of basic skills proficiency

Related Programs

Advertising Specialist, Marketing Management and Sales Specialist diplomas, Business Management, eBusiness Technology Analyst, Fashion/Retail Marketing

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office ^ * + ...	3
(1) MKTG-102	Marketing Principles ^ * + ...	3
(1) MKTG-104	Selling Principles ^ * + ...	3
(1) MKTG-151	Business Career Management	1
(2) ACCTG-110	Financial Accounting	3
	(or) ACCTG-126 Accounting for Managers	
(2) MKTG-125	Advertising ‡ ^ *	3
(2) MKTG-173	Marketing Research ‡ ^ * + ...	3
(2) MKTG-185	Negotiation Skills for Business^ + ...	3
	(or) MKTG-144 Project Parameters and Proposals	
(3) RBUS-111	Business Communications ‡ *	3
	(or) MGTDEV-195 Managerial Communications	
(3) EBUS-118	Social Media Technologies ^	3
(3) LOGMGT-164	Supply Chain Management ^	3
	(or) MKTG-149 Practical Applications Workshop	
(3) MKTG-107	Customer Service Management + ...	3
	(or) MKTG-129 Advertising Campaign Strategies ‡ ^ *	
(4) MKTG-175	Marketing Internship ‡	1
(4) MKTG-160	Sales Management ‡ ^ + ...	3
	(or) MKTG-134 Integrated Marketing Communications ‡ ^ *	
(4) MKTG-174	Marketing Management ^	3
(4) EBUS-165	Web and Social Media Marketing ^	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course.....	
ENG-151	Communication Skills 1 ‡ ^ * + ...	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

ELECTIVES: THREE CREDITS NEEDED 3

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Marketing Management diploma.

+ Counts toward earning the Sales Specialist diploma.

* Counts toward earning the Advertising Specialist diploma.

() = Semester order for full-time students.

Possible Careers: Advertising Creative and Account Management, Business-to-Business or Business-to-Consumer Marketing, Social Media Marketing

Marketing Management – Online Accelerated

ASSOCIATE DEGREE

Program Code: 10-104-3.AA

Offered entirely online

(Official WTCS title: Marketing)

Designed for the adult learner, students complete this Associate in Applied Science degree entirely online in 16 months of full-time study (fall, spring, summer, fall) by combining accelerated online Marketing courses with online support and general education courses. Students develop a broad base of knowledge and skills in advertising, sales, promotion, marketing research, channel management, internet and social media marketing, and marketing management. You also will develop the communication, collaboration, critical thinking and technology skills sought by employers.

Career Pathway

You can earn the Marketing Management, Advertising Specialist and Sales Specialist technical diplomas on your way to completing this degree.

Career Outlook

Throughout the U.S., opportunities in marketing-related fields are expected to increase.

Program Learning Outcomes

Employers expect graduates to:

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Prepare selling strategies
- Apply marketing technologies

Admission Requirements

- A high school diploma or GED
- Demonstrated keyboarding skills through exam or taking OFTECH-103 (Keyboard and Keypad)
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Advertising Specialist, Marketing Management and Sales Specialist diplomas, Business Management, eBusiness Technology Analyst, Fashion/Retail Marketing

Start Date: August

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office ^ * + ...	3
(1) MKTG-102	Marketing Principles ^ * + ...	3
(1) MKTG-104	Selling Principles ^ * + ...	3
(1) MKTG-151	Business Career Management	1
(1) MKTG-173	Marketing Research ‡ ^ * + ...	3
(2) ACCTG-110	Financial Accounting	3
	(or) ACCTG-126 Accounting for Managers	
(2) MKTG-125	Advertising ‡ ^ *	3
(2) MKTG-185	Negotiation Skills for Business ^ + ...	3
(2) LOGMGT-164	Supply Chain Management ^	3
(3) MKTG-107	Customer Service Management + ...	3
	(or) MKTG-129 Advertising Campaign Strategies ‡ ^ *	
(3) RBUS-111	Business Communications ‡ *	3
	(or) MGTDEV-195 Managerial Communications	
(3) EBUS-118	Social Media Technologies ^	3
(4) MKTG-160	Sales Management ‡ ^ + ...	3
	(or) MKTG-134 Integrated Marketing Communications ‡ ^ *	
(4) MKTG-174	Marketing Management ^	3
(4) EBUS-165	Web and Social Media Marketing ^	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^ * + ...	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

ELECTIVES: FOUR CREDITS NEEDED..... 4

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Marketing Management diploma.

+ Counts toward earning the Sales Specialist diploma.

* Counts toward earning the Advertising Specialist diploma.

() = Sequence for Accelerated students.

Possible Careers: Advertising Creative and Account Management, Business-to-Business or Business-to-Consumer Marketing, Social Media Marketing

Marketing Management

TECHNICAL DIPLOMA

Program Code: 31-104-4

Downtown Milwaukee, Mequon and Oak Creek campuses; also offered online

This program is designed to strengthen your career options, whether you are a working adult with little or no experience in the marketing field, or a professional with a marketing background interested in enhancing your skills. Students learn to develop integrated marketing programs and use new technologies. Aptitudes that will contribute to your success include effective interpersonal skills and the ability to work well as a member of a team.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Marketing Management associate degree.

Career Outlook

Opportunities for employment in marketing-related fields are expected to increase faster than the average for all occupations through 2020.

Program Learning Outcomes

Employers will expect graduates to:

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Prepare selling strategies
- Apply marketing technologies

Admission Requirements

- High school diploma or GED
- Basic computer skills
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Marketing Management degree, Business Management, Fashion/Retail Marketing, Social Media Strategist, Supply Management

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

COMPSW-106	Introduction to MS Office	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1 ‡	3
MKTG-104	Selling Principles	3
MKTG-102	Marketing Principles	3
MKTG-173	Marketing Research ‡	3
MKTG-125	Advertising ‡	3
MKTG-129	Advertising Campaign Strategies ‡	3
MKTG-185	Negotiation Skills for Business	3
LOGMGT-164	Supply Chain Management	3
MKTG-160	Sales Management ‡	3
EBUS-118	Social Media Technologies	3
EBUS-165	Web and Social Media Marketing	3
MKTG-134	Integrated Marketing Communications	3
MKTG-174	Marketing Management	3

TOTAL CREDITS: 42

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Advertising Account Management, Business-to-Consumer Marketing, Event Marketing, Social Media Marketing, Sales Promotion

Marketing Specialist

TECHNICAL DIPLOMA

Program Code: 30-104-9

Downtown Milwaukee and Oak Creek campuses; also offered entirely online

Develop a broad cross-section of valuable knowledge, skills and abilities in marketing, sales, advertising, marketing research and career planning. You will learn to develop integrated marketing programs and use new technologies. Coursework enables students to focus on sales management, social media marketing or retail marketing.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Outlook

Opportunities for employment in marketing-related fields are expected to increase faster than the average for all occupations through 2020.

Program Learning Outcomes

Employers expect graduates to:

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through the market research process to make business decisions
- Prepare selling strategies
- Apply marketing technologies

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Marketing Management degree, eBusiness Strategist, Supply Chain Management, Supervisory Management – Accelerated, Social Media Strategist

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

COMPSW-106	Introduction to MS Office	3
ENG-151	Communication Skills 1 ‡	3
MKTG-104	Selling Principles	3
MKTG-102	Marketing Principles	3
MKTG-173	Marketing Research ‡	3
MKTG-151	Business Career Management	1
MKTG-125	Advertising ‡	3
MKTG-185	Negotiation Skills for Business	3
(&) MKTG-160	Sales Management ‡	3
	(or) EBUS-118 Social Media Technologies	
	(&) EBUS-165 Web and Social Media Marketing	
	(or) MKTG-124 Apparel Marketing	
	(&) MKTG-106 Retail Management ‡	

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Advertising Creative and Account Management, Business-to-Business or Business-to-Consumer Marketing, Social Media Marketing

Medical Administrative Specialist

ASSOCIATE DEGREE
Program Code: 10-106-4

Downtown Milwaukee Campus

This program fits individuals with an interest in the business or academic aspects of the health field. Coursework for this Associate in Applied Science degree prepares students for employment in healthcare facilities, medical schools and government agencies. Courses are offered in a blended format, which may include traditional classroom instruction and an online component. Aptitudes contributing to success include an ability to work under pressure, flexibility, adaptability, empathy, a customer-service orientation, and a strong personal and professional code of ethics.

Career Pathway

Earn the Medical Billing technical diploma on your way to completing this degree.

Career Outlook

The employment outlook is favorable. Job responsibilities may include serving as liaison between a healthcare facility and the community, assisting with academic research, preparing electronic medical records, or processing insurance claims and patient statements.

Program Learning Outcomes

- Compose and prepare accurate medical documents and presentations using business software
- Use medical terminology and English language correctly in oral and written messages
- Abstract patient information accurately
- Create, maintain records using medical-specific software
- Demonstrate knowledge of insurance-related practices
- Apply HIPAA guidelines as appropriate
- Determine priorities and follow through
- Triage information efficiently
- Use resources and equipment efficiently
- Treat others with courtesy and respect
- Interact positively to resolve workplace human-relations issues

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Insurance Specialist, Medical Billing, Medical Office Coordinator, Medical Transcription

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency

Employers and intern sponsors may require background checks, drug testing and inoculations as well as signed statements of confidentiality.

TECHNICAL STUDIES

Credits

(1) OFTECH-122	Business English Essentials ^	3
(1) OFTECH-124	Medical Office Terminology 1 ^	3
(1) OFTECH-136	Keyboarding Skill Development 1 ‡ ^	1
(1) RBUS-102	Mathematics of Business	3
(2) ACCTG-102	Basic Office Accounting ^	3
(2) OFTECH-119	Information Management	3
(2) OFTECH-125	Medical Office Terminology 2 ‡ ^	3
(2) OFTECH-133	Business Document Production 1 ‡	3
(2) OFTECH-135	Medical Document Production ‡	3
(3) COMPSW-106	Introduction to MS Office ^	3
(3) OFTECH-148	Machine Transcription Proofreading and Editing/Medical ‡	3
(3) OFTECH-142	Administrative Procedures for the Medical Office ‡	3
(3) RBUS-140	Medical Insurance Principles and Coding ‡ ^	3
(4) OFTECH-174	Medical Claims Reimbursement ‡ ^	2
(4) OFTECH-112	Computerized Medical Billing ‡ ^	3
(4) RBUS-111	Business Communications ‡	3
(4) OFTECH-197	Medical Office Career Investigation ‡ ^	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-189	Basic Anatomy ^	3
	(or) Any 200-series Anatomy course	
NATSCI-172	Basic Nutritional Science	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Medical Billing diploma.

() = Semester order for full-time students.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Medical Billing

TECHNICAL DIPLOMA

Program Code: 31-106-5

Downtown Milwaukee Campus

To perform the essential functions of healthcare administration, you will need a background that includes knowledge of office accounting, medical insurance and terminology, efficient office practices and basic human anatomy. This program covers this unique, broad spectrum. The courses are offered in a blended format, which may include traditional classroom instruction and an online component.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Medical Administrative Specialist associate degree.

Career Outlook

The employment outlook is favorable in the medical billing field. In addition to healthcare facilities, medical billers also work in medical schools and government agencies.

Program Learning Outcomes

Employers will expect graduates to:

- Demonstrate knowledge of insurance-related practices
- Demonstrate understanding of documents used in healthcare billing
- Demonstrate understanding of interpreting various insurance carriers' EOB (Explanation of Benefits), EOR (Explanation of Review) or RA (Remittance Advice)
- Manage client information
- Communicate professionally in the healthcare environment
- Maintain patient confidentiality
- Determine priorities and follow through
- Treat everyone with courtesy
- Demonstrate MATC core abilities

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Program

Medical Administrative Specialist

Start Dates: August/January

For Information

414-297-6395, matc.edu



SIXTEEN-WEEK TERMS

Credits

OFTECH-136	Keyboarding Skill Development 1 ‡.....	1
OFTECH-122	Business English Essentials.....	3
OFTECH-124	Medical Office Terminology 1	3
ACCTG-102	Basic Office Accounting	3
COMPSW-106	Introduction to MS Office	3
NATSCI-189	Basic Anatomy.....	3
OFTECH-112	Computerized Medical Billing ‡.....	3
OFTECH-125	Medical Office Terminology 2 ‡	3
OFTECH-174	Medical Claims Reimbursement ‡	2
RBUS-140	Medical Insurance Principles and Coding ‡	3
OFTECH-197	Medical Office Career Investigation ‡	3

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Possible Careers: Medical Billing Positions in Hospitals, Physicians' Offices, Medical and Diagnostic Laboratories and Outpatient Care Centers

Meeting and Event Management

ASSOCIATE DEGREE

Program Code: 10-109-6

Downtown Milwaukee Campus

Build a dynamic career in event management, meeting planning, special event marketing, corporate and convention sales, or hotel marketing through this Associate in Applied Science degree program.

Dual Degree Option

Students can add courses to this program to earn associate degrees in both Hotel/Hospitality Management and Meeting and Event Management. See your advisor for information.

Career Pathway

Earn the Special Event Management technical diploma on your way to completing this degree.

Career Outlook

Festivals and events are among the fastest-growing segments of the meeting industry; in addition, many associations and corporations hire people to plan and conduct meetings. Employment opportunities also exist in the convention industry, in tourism offices and at information centers.

Program Learning Outcomes

Employers expect graduates to:

- Develop meeting and event proposals
- Manage funding for on-site meetings
- Develop marketing budgets
- Recognize the different types of supplier contracts
- Identify legal issues concerning meetings and events
- Use good negotiation techniques in the meeting management environment

Admission Requirements

- A high school diploma or GED
- Typing proficiency of 30 words per minute or concurrent enrollment in OFTECH-103 Keyboard and Keypad
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Business Management, Hotel/Hospitality Management, Marketing Management, Supervisory Management – Accelerated

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office ^	3
(1) HOTEL-105	Hospitality Marketing and Sales ^	2
(1) MEET-151	Introduction to Hospitality and Tourism ^	3
(1) CULMGT-140	Food and Beverage Operations ^	3
(2) CULMGT-117	Hospitality Law and Liability ^	3
(2) HOTEL-122	Basic Hospitality Accounting ^	3
(2) MEET-181	Exposition and Special Event Management ^	3
(2) HOTEL-127	Catering Weddings, Convention Sales and Contracts ^	3
(2) MEET-180	Registration and Housing Logistics ^	3
(3) EBUS-118	Social Media Technologies	3
(3) HOTEL-124	Managerial Accounting for the Hospitality Industry ‡	3
(3) HOTEL-133	Supervision in the Hospitality Industry	2
(4) MEET-184	Negotiation and Risk Management	3
(4) HOTEL-130	Internship for Hotel/Meeting Management	3
(4) MEET-178	Meeting and Convention Planning	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡ ^	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡ ^	3
	(or) Any 200-series MATH course	
NATSCI-149	Introduction to Geographical Information Systems	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

FLANG-117	Conversational Spanish for Service Occupations 1
MKTG-169	Destination and Attraction Marketing

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Special Event Management diploma.

() = Semester order for full-time students.

Possible Careers: Convention Services Manager, Corporate Travel Manager, Destination Wedding Planner, Special Events Coordinator

Office Technology Assistant

TECHNICAL DIPLOMA

Program Code: 31-106-1

Downtown Milwaukee and Oak Creek campuses

To boost your career, gain skills in the updated technology that today's offices rely on every day. Coursework includes learning administrative office procedures, studying basic accounting, using the software prominent in office environments, and developing strong keyboarding skills.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Administrative Professional associate degree. See your advisor for information.

Career Outlook

This occupation ranks among those with the largest number of job openings. Opportunities should be best for applicants with extensive knowledge of software applications.

Program Learning Outcomes

Employers will expect graduates to:

- Apply technology skills to business and administrative tasks
- Demonstrate effective office/business communications
- Perform routine administrative office procedures
- Manage administrative projects
- Maintain business relationships
- Key at 55 to 60 words per minute
- Model professionalism in the office or business environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Administrative Professional, Legal Administrative Professional – Accelerated, Bilingual Office Assistant

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

OFTECH-101	Windows and MS Word Keyboard Shortcuts	3
OFTECH-103	Keyboard and Keypad	1
OFTECH-119	Information Management.....	3
OFTECH-122	Business English Essentials.....	3
OFTECH-136	Keyboarding Skill Development 1 ‡	1
OFTECH-102	Office Technologies ‡.....	3
OFTECH-133	Business Document Production 1 ‡	3
ACCTG-102	Basic Office Accounting	3
OFTECH-165	Administrative Office Procedures 1 ‡	3
OFTECH-184	MS Office: Word, Excel, Access and PowerPoint ‡	3
RBUS-180	Business Career Planning	1

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Paralegal

ASSOCIATE DEGREE

Program Code: 10-110-1

Downtown Milwaukee Campus

With coursework focused on the practical aspects of law, this program provides a broad background and prepares students to work as a paralegal in the legal community, in government, or in business and industry. Courses in this Associate in Applied Science degree program are available days and evenings, and selected courses are offered online; students must earn at least 10 paralegal specialty credits (PLEGAL courses) via face-to-face instruction. Important to your success is the ability to work under pressure to meet deadlines. You should be well-groomed; typing skills and computer literacy are helpful. This program is approved by the American Bar Association.

Career Outlook

Although this is a growing profession, competition in the job market is keen. Typical job duties include conducting client interviews, obtaining case information, performing legal research, preparing and filing legal documents and court papers. Paralegals are required to work under the supervision of an attorney to avoid the unauthorized practice of law.

Program Learning Outcomes

Employers expect graduates to:

- Apply ethical principles in a legal environment
- Process legal documents
- Perform legal research
- Apply critical thinking skills to address legal issues
- Demonstrate professionalism in a legal environment

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Program

Paralegal Post-Baccalaureate diploma

Start Date: August

For Information

414-297-6395, matc.edu



Possible Careers: Paralegal, Compliance Officer, Legal Researcher

TECHNICAL STUDIES

Credits

(1) BADM-165	Legal Environment of Business.....	3
(1) COMPSW-106	Introduction to MS Office	3
(1) OFTECH-103	Keyboard and Keypad.....	1
(1) PLEGAL-101	Introduction to Paralegalism.....	3
(2) ACCTG-110	Financial Accounting	3
(2) PLEGAL-103	Legal Research ‡.....	3
(2) PLEGAL-105	Civil Procedure ‡.....	3
(2) Select ONE course from the following:		3
PLEGAL-116	Real Estate Law and Practice ‡	
PLEGAL-118	Criminal Practice ‡	
PLEGAL-127	Debtor-Creditor Law ‡	
PLEGAL-140	Legal Interviewing/Investigation ‡	
(3) PLEGAL-107	Legal Writing ‡.....	3
(3) PLEGAL-111	Litigation Practice Systems ‡.....	3
(3) PLEGAL-121	Domestic Relations and Divorce Practice Systems ‡.....	3
(3) Select ONE course from the following:		3
PLEGAL-114	Trusts and Estates – Probate Systems ‡	
PLEGAL-116	Real Estate Law and Practice ‡	
PLEGAL-118	Criminal Practice ‡	
PLEGAL-127	Debtor-Creditor Law ‡	
PLEGAL-140	Legal Interviewing/Investigation ‡	
(4) Select THREE courses from the following:		9
PLEGAL-114	Trusts and Estates – Probate Systems ‡	
PLEGAL-116	Real Estate Law and Practice ‡	
PLEGAL-118	Criminal Practice ‡	
PLEGAL-123	Corporate Practice Systems ‡	
PLEGAL-127	Debtor-Creditor Law ‡	
PLEGAL-140	Legal Interviewing/Investigation ‡	

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Paralegal Post-Baccalaureate

TECHNICAL DIPLOMA

Program Code: 30-110-1

Downtown Milwaukee Campus

This program is approved by the American Bar Association and is designed for students who already have a bachelor's degree. Instruction concentrates on practical, rather than theoretical, aspects of law. You will gain the foundation for a paralegal career in a law office, government agency, private organization or corporation.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Paralegal associate degree program.

Career Outlook

Typical job duties include conducting client interviews, obtaining case information, performing legal research, preparing and filing legal documents and court papers, and providing general assistance to attorneys. Paralegals are required to work under the supervision of an attorney to avoid the unauthorized practice of law.

Program Learning Outcomes

- Apply ethical principles in a legal environment
- Process legal documents
- Perform legal research
- Apply critical thinking skills to address legal issues
- Demonstrate professionalism in a legal environment

Admission Requirements

- Baccalaureate degree with at least 18 credits in Liberal Arts courses; applicants will submit an official college transcript to the Downtown Milwaukee Campus Admissions Office
- Demonstration of proficiency in basic skills through a course placement assessment

Related Program

Paralegal degree

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

PLEGAL-101	Introduction to Paralegalism.....	3
PLEGAL-103	Legal Research ‡.....	3
PLEGAL-105	Civil Procedure ‡.....	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3
PLEGAL-107	Legal Writing ‡.....	3
PLEGAL-111	Litigation Practice Systems ‡	3
PLEGAL-114	Trusts and Estates – Probate Systems ‡ (or) PLEGAL-116 Real Estate Law and Practice ‡ (or) PLEGAL-118 Criminal Practice ‡	3

TOTAL CREDITS: 21

‡ Prerequisite required, however, students admitted to the diploma program can register for paralegal specialty (PLEGAL) courses concurrently with PLEGAL-101 (Introduction to Paralegalism). Diploma students must request prerequisite waivers for the courses they wish to take via their INFOnline account. Program curriculum requirements are subject to change.

Real Estate

ASSOCIATE DEGREE

Program Code: 10-194-1

West Allis Campus

This Associate in Applied Science degree program prepares you for a wide range of careers in the real estate field. It is designed to familiarize you with numerous job opportunities, including sales and brokerage, property management, mortgage lending, investment, tax assessing, community building inspection, home inspection and others. The program includes broad training in the major areas of real estate, which can lead to sales and broker licenses, certifications for building inspection, licensed home inspector, or to one of several designations in property management. The Real Estate program is approved by the Wisconsin Department of Safety and Professional Services. Salesperson's preparation courses (RLEST-180 and RLEST-182) and broker's preparation courses (RLEST-183 and RLEST-187) are offered to meet minimum educational requirements to qualify for the state licensing exams.

Career Outlook

Opportunities in the different areas of real estate are available for well-trained professionals, as employees of real estate companies or as self-employed real estate specialists. Good people skills, math proficiency and a willingness to work evenings and weekends are important.

Program Learning Outcomes

Employers expect graduates to:

- Demonstrate knowledge of real estate law
- Calculate and communicate the financial aspects of a real estate transaction
- Process forms accurately and quickly
- Understand the fundamentals of construction
- Apply effective sales competencies
- Display a sound understanding of the concepts of real estate value
- Demonstrate sound interactive communication skills

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency

Related Programs

Business Management, Marketing Management, Supervisory Management – Accelerated

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Broker, Building Inspection, Property Management

TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office	3
(1) RLEST-180	Principles of Real Estate	3
(1) RLEST-182	Real Estate Law	3
(1) RLEST-189	Introduction to Home Inspection	3
(2) ACCTG-110	Financial Accounting	3

Select one of the following emphasis groups:

BUILDING AND HOME INSPECTION EMPHASIS

(3) RLEST-175	Technical Writing for Home Inspectors	3
(3) RLEST-191	Residential Plumbing for Inspectors ‡	3
(3) RLEST-192	UDC: Construction for Inspectors	3
(3) RLEST-193	Residential Electrical for Inspectors ‡	3
(4) RLEST-194	UDC: HVAC for Inspectors ‡	3
(4) RLEST-197	Commercial Building Code for Inspectors	3

REAL ESTATE SALES AND BROKER EMPHASIS

(3) RLEST-181	Principles of Commercial Real Estate ‡	3
(3) RLEST-183	Real Estate Broker Preparation	3
(3) RLEST-187	Broker Management ‡	3
(3) RLEST-184	Real Estate Mortgage Processing	3
(4) RLEST-185	Real Estate Investment Principles	3
(4) RLEST-188	Listing, Selling and Sales Tools	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: NINE CREDITS NEEDED 9

RLEST-174	Technical Writing for Real Estate Sales Professionals
RLEST-186	Real Estate Sales Tools
RLEST-190	Introduction to Property Management
RLEST-199	Real Estate Broker Internship
BADM-134	Business Organization and Management
MGDEV-191	Supervision
MKTG-102	Marketing Principles
INDSGN-100	Introduction to Interior Design
INDSGN-102	Basic Architectural Drawing

TOTAL CREDITS: 63

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Retail Marketing Specialist

TECHNICAL DIPLOMA

Program Code: 30-104-2

Oak Creek Campus

School of Business

Get set for a career in retail marketing and management by learning to perform key operations associated with sales in a variety of settings. Strengthen your skills through instruction in supervision, marketing and selling principles, visual merchandising, customer service, communication and basic computer software skills.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Fashion/Retail Marketing associate degree.

Career Outlook

For retail management positions, the projected national job growth through 2020 is expected to be 17%. The projected Wisconsin job growth during this period is expected to be 11%.

Program Learning Outcomes

Employers expect graduates to:

- Maintain knowledge of current sales and promotions, policies regarding payment and exchanges, and security practices
- Maintain records related to sales
- Describe merchandise and demonstrate/explain use, operation, and care of merchandise to customers
- Recommend, select and help locate or obtain merchandise based on customer needs and desires
- Compute sales prices, total purchases, and receive and process cash or credit payment
- Prepare sales slips or sales contracts

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Fashion/Retail Marketing, Fashion Marketing Specialist

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

MKTG-102	Marketing Principles	3
COMPSW-106	Introduction to MS Office	3
MGTDEV-191	Supervision	3
MKTG-119	Visual Merchandising	3
MKTG-107	Customer Service Management	3
MKTG-106	Retail Management ‡	3
MKTG-104	Selling Principles	3
ENG-151	Communication Skills 1 ‡	3
	(or) ENG-201 English 1	

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Sales Specialist

TECHNICAL DIPLOMA

Program Code: 30-104-7

All campuses; also offered entirely online

Formerly Sales Management

Prepare for a successful sales career by developing knowledge of commercial and consumer markets. This program helps you strengthen interpersonal and problem-solving skills. Focusing on the latest sales trends and technologies, the coursework is designed for students with no experience in sales, as well as those already working in the field seeking to enhance their skills.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Marketing Management associate degree.

Career Outlook

Opportunities for employment in sales are expected to increase faster than the average for all occupations through 2020.

Program Learning Outcomes

Employers will expect graduates to:

- Develop strategies to anticipate and satisfy market needs
- Promote products, services, images and/or ideas to achieve a desired outcome
- Evaluate information through market research process to make decisions
- Prepare selling strategies
- Apply selling technologies

Related Programs

Marketing Management, eBusiness Technology Analyst, Advertising Specialist, Social Media Specialist, Fashion/Retail Marketing

Start Dates: August/January

For Information

414-297-6395, matc.edu



Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Basic computer skills

SIXTEEN-WEEK TERMS

	Credits
COMPSW-106 Introduction to MS Office	3
ENG-151 Communication Skills 1 ‡ (or) ENG-201 English 1	3
MKTG-104 Selling Principles	3
MKTG-102 Marketing Principles	3
MKTG-160 Sales Management ‡	3
MKTG-173 Marketing Research ‡	3
MKTG-185 Negotiation Skills for Business	3
MKTG-107 Customer Service Management	3

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Business-to-Business Marketing, Business-to-Consumer Marketing, Professional Selling and Sales Management

Social Media Specialist

ASSOCIATE DEGREE
Program Code: 10-151-1

Downtown Milwaukee and Mequon campuses

Develop the technical skills required to configure, modify and manage an organization's social media strategy. This program combines IT, marketing and ebusiness courses so students have a well-balanced skill set to begin a career in this dynamic field. It focuses on the technical use, development, implementation and modification of the tools and concepts used by a business to establish an overarching social media strategy. Information security concepts also are taught to prepare students to develop social media policies for the business, including proper social media usage by employees, and the development of guidelines for the organization.

Career Outlook

There is strong demand for employees with the skills to develop and manage the technical tools related to a firm's social media presence. Individuals with abilities in HTML, programming, analytics and marketing are needed to support an organization's promotional efforts, including strategies that incorporate the newest electronic devices.

Program Learning Outcomes

Employers expect graduates to:

- Create and implement a social media strategy
- Master the tools used by a social media strategist
- Engage with the target audience and build an online community
- Do analytics: track month-to-month changes in social media statistics
- Learn basic web design
- Learn to create basic digital content for social media campaigns
- Understand the social media policies and procedures that need to be implemented

Admission Requirements

- Two- or four-year college degree (or)
- Acceptable scores on MATC's course placement assessment demonstrating proficiency in skills

Related Programs

Creative Advertising Strategist, eBusiness Strategist, Marketing Management

Start Dates: August/January

For Information

414-297-6395, matc.edu



TECHNICAL STUDIES

Credits

(1) ITSOC-101	Social Media for Individuals	3
(1) ITSOC-105	Google Apps and Cloud Collaboration	3
(2) ITSOC-102	Social Media for Business	3
(2) BADM-134	Business Organization and Management.....	3
(2) VICOM-150	Introduction to Digital Media.....	3
(3) ITSOC-109	Social Media Analytics.....	3
(3) EBUS-165	Web and Social Media Marketing.....	3
(3) VICOM-128	Web Development with HTML/CSS	3
(3) CAS-141	New Media Strategies	3
(4) ITSOC-110	Community Management/Policies and Procedures	3
(4) ITDEV-160	Web Programming and Scripts	3
(4) ITSOC-112	Social Media Specialist Internship.....	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

ELECTIVES: THREE CREDITS NEEDED 3
TOTAL CREDITS: 60

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Social Media Specialist, Social Media Marketing Manager, Social Media Strategist, Social Media Analyst, Content Manager

Social Media Strategist

TECHNICAL DIPLOMA

Program Code: 30-135-1

Downtown Milwaukee Campus; also offered entirely online

To prepare you for careers in today's fast-growing social media arena, this program blends instruction in marketing and interactive media. Your success in the program will be improved with proficiency in basic computer skills and familiarity with internet communications.

Online Option

This program may be taken on campus or entirely online; on-campus testing may be required.

Career Pathway

After earning this diploma, the credits can be applied toward completing the eBusiness Technology Analyst associate degree.

Career Outlook

The rapid growth of social media platforms and internet-enabled devices has led to an increased demand for skills in social media, marketing and website analytics. Graduates of this program will be prepared for entry-level positions in ecommerce, website development, social media and marketing.

Program Learning Outcomes

Employers will expect program graduates to:

- Demonstrate a working knowledge of computer software
- Utilize problem-solving and decision-making skills
- Understand business models and uses of social media
- Research business and consumer markets to create social media marketing strategies
- Analyze social media metrics/understand SEO techniques
- Design social media platforms including audience appropriate content
- Monitor and engage in social media/web communities
- Show knowledge of all major social media platforms
- Use project management techniques
- Research and monitor social media efforts for effectiveness
- Understand the uses of social media tools and concepts internal and external to the organization
- Develop a web/social media marketing strategy
- Provide web customer service

Start Dates: August/January

For Information

414-297-6395, matc.edu



Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Basic computer skills are highly recommended

SIXTEEN-WEEK TERMS

	Credits
EBUS-118 Social Media Technologies 3 (or) ITSOC-102 Social Media for Business	
VICOM-150 Introduction to Digital Media 3	
EBUS-165 Web and Social Media Marketing 3	
VICOM-128 Web Development with HTML/CSS 3	
EBUS-191 CRM Customer Relationship Management 3 (or) ITSOC-110 Community Management/Policies and Procedures	
VICOM-124 Content Management Systems ‡ 3	

TOTAL CREDITS: 18

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Social Media Strategist, Social Media Analyst, Digital Content Strategist, Web Developer, Web Designer

Special Event Management

TECHNICAL DIPLOMA

Program Code: 31-109-2

Downtown Milwaukee Campus

Put your creativity and planning skills to work and begin a career in event management. Prior to graduation, you will gain experience through the program's 16-week internship. Effective communication skills, strong human relations abilities and problem-solving skills will contribute to your success in the program and on the job.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Meeting and Event Management associate degree.

Career Outlook

Many associations and corporations are hiring people to arrange, plan and conduct special events in a wide range of venues. In this field there is a high demand for skilled, customer service-focused employees.

Program Learning Outcomes

Employers will expect graduates to:

- Develop meeting and event proposals
- Manage funding for on-site meetings
- Create program planning outlines
- Learn how to develop a volunteer management program
- Recognize the different types of supplier contracts
- Use good negotiation techniques in the event management environment
- Apply your business computer skills
- Develop a realistic and comprehensive marketing budget
- Understand the role of a convention and visitors bureau
- Identify legal issues concerning meetings and events
- Describe food and beverage needs for events
- Identify the factors for setting up meeting spaces
- Understand the importance of planning for on-site emergencies

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Typing proficiency of 30 words per minute or concurrent enrollment in OFTECH-103 Keyboard and Keypad

Start Dates: August/January

For Information

414-297-6395, matc.edu

SIXTEEN-WEEK TERMS

Credits

COMPSW-106	Introduction to MS Office	3
MEET-151	Introduction to Hospitality and Tourism	3
HOTEL-105	Hospitality Marketing and Sales	2
CULMGT-140	Food and Beverage Operations	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3
MATH-123	Math With Business Applications ‡	3
HOTEL-127	Catering Weddings, Convention Sales and Contracts	3
MEET-180	Registration and Housing Logistics	3
MEET-181	Exposition and Special Event Management	3
CULMGT-117	Hospitality Law and Liability	3
ENG-152	Communication Skills 2 ‡ (or) ENG-202 English 2	3
HOTEL-122	Basic Hospitality Accounting	3

TOTAL CREDITS: 35

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Supervisory Management – Accelerated

ASSOCIATE DEGREE
Program Code: 10-196-1.AA

Mequon, Oak Creek and West Allis campuses

Designed for working adults, the program's accelerated format allows you to finish your Associate in Applied Science degree in less than two and one-half years by taking classes one evening per week, or on Saturday morning, year-round. This program is designed for people who are currently employed in leadership and management positions, or people who aspire to move into such positions. The curriculum focuses on developing a wide range of supervisory skills.

Career Outlook

Leadership skills are essential to be successful in all areas of business and industry. Program graduates typically are supervisors, group leaders and managers.

Program Learning Outcomes

Employers expect graduates to:

- Understand the supervisor's role in planning, organizing, staffing and leading a work group
- Demonstrate leadership, team-building and communication skills
- Demonstrate human resource skills in selecting, evaluating, training and disciplining employees
- Understand the legal issues that supervisors face
- Design, implement and evaluate formal projects and budgets
- Use data, problem-solving skills and processes to analyze and improve quality

Admission Requirements

- High school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Two or more years of work experience
- An interview with the program chairperson

Related Programs

Business Management, Human Resources, Marketing Management

Start Date: January

For Information

414-297-6395, matc.edu


Possible Careers: Team Leader, Director, Manager, Supervisor

TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office 3 (or) COMPSW-137 & COMPSW-138 (and) OFTECH-128 or OFTECH-129
(1) RBUS-102	Mathematics of Business..... 3 (or) BADM-104 Business Statistics ‡
(1) MGTDEV-164	Personal Skills for Supervisors..... 3
(1) MGTDEV-191	Supervision 3
(2) MKTG-107	Customer Service Management 3 (or) LOGMGT-146 Operations Management (or) HRMGT-193 Human Resource Management
(2) MGTDEV-134	Legal Issues for Supervisors..... 3
(2) MGTDEV-189	Team Building and Problem-Solving 3
(2) EBUS-118	Social Media Technologies 3
(5) HRMGT-169	Diversity and Change Management 3
(3) MGTDEV-190	Leadership Development 3
(3) MGTDEV-195	Managerial Communications 3
(3) HRMGT-136	Safety in the Workplace 3
(3) ACCTG-126	Accounting for Managers 3
(4) MGTDEV-188	Project Management..... 3
(4) MGTDEV-192	Managing for Quality 3

GENERAL STUDIES

ECON-195	Economics 3 (or) Any 200-series ECON course*
ENG-151	Communication Skills 1 ‡ 3
(&) ENG-152	Communication Skills 2 ‡ 3 (or) ENG-201 and any 200-series ENG or SPEECH course*
MATH-107	College Mathematics ‡ 3 (or) Any 200-series MATH course *
NATSCI-167	Science of Technology 3 (or) Any 200-series NATSCI course *
PSYCH-199	Psychology of Human Relations 3 (or) PSYCH-231 Introductory Psychology *
SOCSCI-197	Contemporary American Society 3 (or) SOCSCI-203 Introduction to Sociology *

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

LOGMGT-164	Supply Chain Management
QETECH-118	Lean Principles
QETECH-132	Six Sigma Green Belt 1
HRMGT-198	Business Ethics

TOTAL CREDITS: 69

‡ Prerequisite required. S = Summer

Program curriculum requirements are subject to change.

* Students planning to transfer MATC credits to a four-year college/university should take 200-series courses in General Studies.

() = Sequence for Accelerated students.

Supply Chain Management

ASSOCIATE DEGREE

Program Code: 10-182-1

Oak Creek Campus; also offered entirely online

If you want to pursue a career in logistics, transportation, distribution, purchasing, production or inventory control, this Associate in Applied Science degree program will interest you. The program's Logistics courses develop skills needed for a successful career in transportation or distribution; Materials Management courses prepare you for purchasing, inventory or production control positions; and Quality Management coursework provides instruction in Six Sigma Green Belt. Core skills include conceptual ability, problem-solving, organizational skills and the ability to meet deadlines.

Online and Blended Options

This program is offered entirely online and also is offered in a blended format that is 50% online and 50% classroom.

Career Pathway

You can earn Supply Management and Transportation – Logistics technical diplomas on your way to completing this degree.

Career Outlook

The projected employment outlook in the field of supply chain management is very optimistic. Job responsibilities may involve pressure to meet precise deadlines; shift work and overtime are often required.

Program Learning Outcomes

Employers expect graduates to:

- Demonstrate problem-solving and decision-making skills
- Demonstrate an overall knowledge of logistics in the areas of marketing, transportation, purchasing and customer service
- Apply computer technology to assist in identifying logistics solutions
- Exhibit effective written and oral communication skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Supply Management, Transportation – Logistics, Business Management, Supervisory Management – Accelerated

Start Dates: August/January

For Information

414-297-6395, matc.edu



Possible Careers: Buyer, Inventory Supervisor, Production Planner

TECHNICAL STUDIES

Credits

(1) COMPSW-106	Introduction to MS Office	3
(1) LOGMGT-164	Supply Chain Management ^ *	3
(1) MKTG-102	Marketing Principles.....	3
	(or) MGTDEV-191 Supervision ^ *	
(1) MKTG-107	Customer Service Management ^ *	3
	(or) MKTG-104 Selling Principles	
	(or) QETECH-118 Lean Principles	
(2) LOGMGT-190	Transportation *	3
(2) BADM-104	Business Statistics ‡	3
(2) BADM-165	Legal Environment of Business *	3
(3) MGTDEV-192	Managing for Quality ^	3
(3) MKTG-185	Negotiation Skills for Business ^	3
	(or) MGTDEV-188 Project Management	
(3) MGTDEV-189	Team Building and Problem-Solving	3
	(or) MGTDEV-190 Leadership Development	
(3) ACCTG-110	Financial Accounting	3
	(or) ACCTG-126 Accounting for Managers	
(4) LOGMGT-170	Purchasing ‡ ^	3
(4) LOGMGT-184	International Logistics –	
	Transportation/Documentation *	3

Select one area of emphasis from these three options:

MATERIALS MANAGEMENT EMPHASIS

(4) LOGMGT-144	Production Planning and Inventory Control ^	3
(4) (&) LOGMGT-146	Operations Management ^	3

LOGISTICS EMPHASIS

(4) LOGMGT-192	Transportation Pricing ‡ *	3
(4) (&) LOGMGT-195	Freight Claims ‡ *	3

QUALITY MANAGEMENT EMPHASIS

(4) QETECH-132	Six Sigma Green Belt 1 ‡	3
(4) (&) QETECH-134	Six Sigma Green Belt 2 ‡	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG	
	or SPEECH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
NATSCI-149	Introduction to Geographical Information Systems	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

MGTDEV-195	Managerial Communications	
MKTG-168	Pricing Strategies ‡	
QETECH-142	Six Sigma Green Belt Project	
HRMGT-198	Business Ethics	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

* Counts toward earning the Transportation-Logistics diploma.

^ Counts toward earning the Supply Management diploma.

() = Semester order for full-time students.

Supply Management

TECHNICAL DIPLOMA

Program Code: 30-182-1

Oak Creek Campus; also offered entirely online

Geared toward providing entry-level employment, this two-semester program provides instruction in the skills and competencies for jobs in supply chain management, purchasing and materials management. Aptitudes that will contribute to your success include effective communication and problem-solving skills, and the ability to work well as a member of a team.

Online and Blended Options

This program is offered entirely online and also is offered in a blended format that is 50% online and 50% classroom.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Supply Chain Management associate degree.

Program Learning Outcomes

Employers will expect graduates to:

- Represent companies in negotiating contracts and formulating policies with suppliers
- Direct and coordinate activities of personnel engaged in buying, selling, and distributing materials, equipment, machinery and supplies
- Interview and hire staff, and oversee staff training
- Locate vendors of materials, equipment or supplies, and interview them to determine product availability and terms of sales
- Prepare and process requisitions and purchase orders for supplies and equipment
- Develop and implement purchasing and contract management instructions, policies and procedures
- Maintain records of goods ordered and received
- Participate in the development of specifications for equipment, products or substitute materials
- Analyze market and delivery systems to assess present and future material availability
- Resolve vendor or contractor grievances, and claims against suppliers

Start Dates: August/January

For Information

414-297-6395, matc.edu



Career Outlook

Employment of purchasing managers, buyers and purchasing agents is expected to increase as these workers will be needed to buy goods and services for business operations or for resale to customers.

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Basic computer skills

SIXTEEN-WEEK TERMS

Credits

LOGMGT-164	Supply Chain Management	3
MKTG-107	Customer Service Management	3
MGTDEV-191	Supervision	3
LOGMGT-144	Production Planning and Inventory Control	3
LOGMGT-146	Operations Management	3
MGTDEV-192	Managing for Quality	3
LOGMGT-170	Purchasing ‡.....	3
MKTG-185	Negotiation Skills for Business	3

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Buyer, Procurement Specialist, Material Services Clerk, Buyer/Planner, Inventory Control Clerk, Materials Operations Coordinator

Transportation – Logistics

TECHNICAL DIPLOMA

Program Code: 30-182-2

Oak Creek Campus; also offered entirely online

This two-semester program is geared toward providing entry-level employment skills and competencies for jobs in the transportation and logistics industry. Important aptitudes for your success include effective communication and problem-solving skills, and the ability to work well as a member of a team.

Online and Blended Options

This program is offered entirely online and also is offered in a blended format that is 50% online and 50% classroom.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Supply Chain Management associate degree.

Program Learning Outcomes

Employers will expect graduates to:

- Resolve problems concerning transportation, logistics systems, imports or exports, or customer issues
- Collaborate with other departments to integrate logistics with business systems or processes, such as customer sales, order management, accounting or shipping
- Maintain metrics, reports, process documentation, customer service logs, training and safety records
- Supervise the work of logistics specialists, planners or schedulers
- Direct inbound or outbound logistics operations, such as transportation or warehouse activities, safety performance or logistics quality management
- Direct or coordinate comprehensive logistical or reverse logistical functions for product life cycles, including acquisition, distribution, internal allocation, delivery, recycling, reuse or final disposal of resources
- Negotiate with suppliers or customers to improve supply chain efficiency or sustainability
- Direct distribution center operation to ensure achievement of cost, productivity, accuracy or timeliness objectives
- Negotiate transportation rates or services
- Analyze the financial impact of proposed logistics changes, such as routing, shipping modes, product volumes or mixes, or carriers

Start Dates: August/January

For Information

414-297-6395, matc.edu



Career Outlook

Employment of logisticians has been forecast to grow 26% from 2010 through 2020. This growth will be driven by the important role logistics play today and by the fact that supply and distribution systems have become increasingly complex in a global economy. Companies rely on logisticians to manage the movement of their products and supplies, and the performance of a company's logistical and supply chain process is an important factor in profitability. Governments and the military also rely on logisticians, so employment opportunities in government and contracting firms will continue to grow.

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Basic computer skills

SIXTEEN-WEEK TERMS

	Credits
LOGMGT-164 Supply Chain Management	3
MKTG-107 Customer Service Management	3
MGTDEV-191 Supervision	3
LOGMGT-192 Transportation Pricing ‡.....	3
LOGMGT-195 Freight Claims ‡.....	3
BADM-165 Legal Environment of Business.....	3
LOGMGT-190 Transportation	3
LOGMGT-184 International Logistics and Transportation Documentation	3

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Logistics Planner, Logistics Coordinator, Logistics Manager, Transportation Coordinator, Import/Export Coordinator

Accounting Bookkeeper Trainee

Downtown Milwaukee, Oak Creek, West Allis campuses; also offered entirely online

Get started in the bookkeeping/accounting field. You will develop competence in financial accounting with an emphasis on accounting software, spreadsheets and databases. This program may be taken on-campus or online.

Admission requirements: A high school diploma or GED, and course placement assessment of proficiency in basic skills.

Career Pathway

Credits earned in this certificate can be applied toward completing the Accounting Assistant technical diploma and the Accounting associate degree.

COURSES	CREDITS
ACCTG-111 Accounting 1	4
ACCTG-130 Computerized Accounting ‡	3
ACCTG-122 Accounting Software Applications. 3	
TOTAL CREDITS:	10

Barber/Cosmetologist Instructor

Downtown Milwaukee Campus

Develop the capabilities required to teach barbering and cosmetology, manicuring or esthetician skills to new students entering the field. You must hold a Wisconsin license in Barber/Cosmetology and have completed two years of work experience in the profession.

COURSES	CREDITS
BARCOS-333 Barber/Cosmetologist Instructor Techniques – Part 1 ‡	3
BARCOS-334 Barber/Cosmetologist Instructor Techniques – Part 2 ‡	3
TOTAL CREDITS:	6

Barber/Cosmetologist Manager

Downtown Milwaukee Campus

Students will study principles of marketing, retail management, advertising, workplace communications and more. You must be a Wisconsin-licensed barber/cosmetologist to enter this program.

COURSES	CREDITS
BARCOS-331 Business Management – Barber/Cosmetologist Manager ‡....	3
BARCOS-332 Communications – Barber/Cosmetologist Manager ‡....	3
TOTAL CREDITS:	6

Business Management Trainee

All campuses; also offered entirely online

Get a strong start to enter the job market with knowledge of key components of business, including introductions to accounting, management and legal concepts.

Admission requirements: A high school diploma or GED, and course placement assessment of proficiency in basic skills.

Career Pathway

Credits earned in this certificate can be applied toward completing the Business Management technical diploma and the Business Management associate degree.

COURSES	CREDITS
BADM-134 Business Organization and Management.....	3
ACCTG-110 Financial Accounting	3
COMPSW-106 Introduction to MS Office	3
BADM-165 Legal Environment of Business.....	3
TOTAL CREDITS:	12

Cisco Internetworking (CCNA)

All Campuses

Become certified and enhance your marketable skills. The certificate includes four courses that prepare you for the Cisco Certified Networking Associate (CCNA) exam. The coursework provides classroom and laboratory experience.

COURSES	CREDITS
ITNET-131 Introduction to Networks (Cisco 1)	3
ITNET-132 Routing/Switching Essentials (Cisco 2) ‡	3
ITNET-133 Scaling Networks (Cisco 3) ‡	3
ITNET-134 Connecting Networks (Cisco 4) ‡....	3
TOTAL CREDITS:	12

* Program start dates: August/January/June.

All other programs' start dates are August/January.

‡ Prerequisite required. Program curriculum requirements are subject to change. All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher.

Entrepreneurship

Downtown Milwaukee Campus; also online

Program is geared to students interested in starting their own, or assisting with, a small or family-run business. Courses are offered in online, accelerated, blended formats.

Admission requirements: A high school diploma or GED, and course placement assessment of proficiency in basic skills.

Career Pathway

Credits earned in the certificate can be applied toward completing the Entrepreneurship technical diploma.

COURSES*	CREDITS
ENTREP-101 Introduction to Entrepreneurship ..	3
ENTREP-104 Business Plan.....	3
TOTAL CREDITS:	6

Financial Services Trainee

Downtown Milwaukee and West Allis campuses; also offered entirely online

Attain the solid foundation in banking and finance concepts needed to enter the industry.

Admission requirements: A high school diploma or GED, and course placement assessment of proficiency in basic skills.

Career Pathway

Credits earned in this certificate can be applied toward completing the Financial Services technical diploma and the Banking and Financial Services associate degree.

COURSES	CREDITS
COMPSW-106 Introduction to MS Office	3
FIN-120 Introduction to Money, Banking and Financial Markets	3
MKTG-104 Selling Principles.....	3
ACCTG-111 Accounting 1	4
TOTAL CREDITS:	13

Information Security Fundamentals

Mequon Campus

Topics covered include the 10 domains of information security, fundamentals of networking and network security.

COURSES	CREDITS
ITNET-101 Network Communications (Network+)	3
ITSEC-114 Information Security Principles.....	3
ITSEC-120 Security Policies and Procedures	3
ITSEC-124 Network Security (Security+)	3
TOTAL CREDITS:	12

Infrastructure Security

Mequon Campus

Learn about security of the infrastructure and backbones of the internet. Topics covered include router setup and security, perimeter security, wireless security, information systems security and evaluations.

COURSES	CREDITS
ITSEC-140 Router Security.....	3
ITSEC-145 Perimeter Security	3
ITSEC-146 Security Measures and Intrusion Detection	3
ITSEC-148 Wireless Security.....	3
TOTAL CREDITS:	12

IT/ Advanced Technical Support

Mequon, Oak Creek and West Allis campuses

This program provides Apple support training along with mobile device repair and administration. You also gain preparation for Apple ACSP, CompTIA's Mobility+ and HDI-SCA, HDI-DST, and ITIL Foundation industry-standard certifications.

Admission requirements: A high school diploma or GED, one year of high school-level algebra, knowledge of computer fundamentals, and course placement assessment of proficiency in basic skills.

Career Pathway

This is the fourth of four certificate programs that are pathways to IT training and credentials. Credits earned in this certificate can be applied toward completing the IT Computer Support Specialist associate degree.

COURSES	CREDITS
ITSUP-150 Emerging Technologies (Mobile Device Repair)	3
ITSUP-152 Apple OS X Certified Support Professional (ACSP).....	3
ITSUP-153 Mobility+ Device Administration (iOS, Android, Windows)	3
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL)	3
TOTAL CREDITS:	12

IT/ Level 2 - Service Center Technician

Mequon, Oak Creek and West Allis campuses

Acquire the skills for level-two service center support and prepare for CompTIA's Network+ and Security+ certifications, HDI's Support Center Analyst and Desktop Support Technician, as well as ITIL.

Admission requirements: A high school diploma or GED, one year of high school-level algebra, completion or concurrent enrollment in classes pertaining to CompTIA A+ recommended, and course placement assessment of proficiency in basic skills.

Career Pathway

This is the third of four certificate programs that are pathways to IT training and credentials. Credits earned in this certificate can be applied toward completing the IT Computer Support Specialist associate degree.

COURSES	CREDITS
ITNET-101 Network Communications (CompTIA Network+)	3
ITSEC-124 Network Security (CompTIA Security+)	3
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL)	3
TOTAL CREDITS:	9

IT/ Microsoft Enterprise Desktop Support Specialist

Mequon, Oak Creek and West Allis campuses

Skill sets gained through this program will provide working knowledge to identify and resolve operating system, application and security issues; and to maintain and manage Windows 7 systems.

Admission requirements: A high school diploma or GED, one year of high school-level algebra, knowledge of computer fundamentals, and course placement assessment of proficiency in basic skills.

Career Pathway

This is the second of four certificate programs that are pathways to IT training and credentials. Credits earned in this certificate can be applied toward completing the IT Computer Support Specialist associate degree.

COURSES	CREDITS
ITNET-110 Manage Windows Desktop Client Operating System.....	3
ITSUP-108 Enterprise Desktop Support Technician.....	2
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL)	3
TOTAL CREDITS:	8

IT/ Service Center Technician

Downtown Milwaukee Campus (summer session),

Mequon, Oak Creek and West Allis campuses

(fall and spring semesters)

Start your information technology career through this certificate program that can be completed in one semester (15 weeks). An accelerated summer session (eight weeks) offers two courses required for the program. This certificate program prepares you for several key industry certification exams.

Admission requirements: A high school diploma or GED, one year of high school-level algebra, and course placement assessment of proficiency in basic skills.

Career Pathway

This is the first of four certificate programs that are pathways to IT training and credentials. Credits earned in this certificate can be applied toward completing the IT Computer Support Specialist associate degree.

COURSES	CREDITS
ITSUP-101 Computer Information Systems Fundamentals	3
ITSUP-102 CompTIA A+ Essentials and IT Technician.....	4
ITSUP-140 Support Center Analyst (HDI-SCA, HDI-DST, ITIL)	3
TOTAL CREDITS:	10

IT Security Auditing

Mequon Campus

This certificate is designed to educate students about IT auditing in general as well as security auditing and testing. Topics covered include pen-test, ethical hacking, security policy and procedures, and application security.

COURSES	CREDITS
ITSEC-122 Web/Application Security.....	3
ITSEC-126 Computer Forensics.....	3
ITSEC-146 Security Measures and Intrusion Detection	3
ITSEC-151 IT – Auditing	3
ITSEC-152 Information Security Risk Management	3
TOTAL CREDITS:	15

Lodging and Hospitality Assistant

Downtown Milwaukee Campus

Enter the dynamic hospitality industry with the training and skills in customer service, front-office procedures and housekeeping operations that employers seek. The certificate program includes an internship for hands-on experience.

Admission requirement: A high school diploma or GED.

Career Pathway

All credits earned in this certificate can be applied toward completing the Hotel/Hospitality Management associate degree. Credits also can be applied toward completing the Waukesha County Technical College's Hotel and Restaurant Management program.

COURSES	CREDITS
HOTEL-110 Front Office Procedures and Management.....	3
HOTEL-150 Housekeeping Operations	2
HOTEL-105 Hospitality Marketing and Sales	2
HOTEL-130 Internship in Hotel/ Meeting Management	3
TOTAL CREDITS:	10

Nail Technician

Downtown Milwaukee Campus

Learn the skills and knowledge needed to qualify to take the state manicurist license examination, and develop professional skills in a salon-like setting working 16 weeks at 24 hours per week. In addition to tuition and textbooks, students must purchase a tool/equipment kit.

COURSES	CREDITS
BARCOS-340 Manicuring Theory	4
BARCOS-342 Manicuring Practicum 1	4
BARCOS-343 Manicuring Practicum 2	4
TOTAL CREDITS:	12

Supervisory Management

Mequon and Oak Creek campuses

Learn proven supervisory skills and become a better leader. Three required courses and your choice of electives are offered. Courses may be applied to relevant associate degree programs.

COURSES	CREDITS
MGTDEV-190 Leadership Development	3
MGTDEV-191 Supervision	3
HRMGT-193 Human Resource Management	3
ELECTIVE: Select one of the following courses:	3
MGTDEV-189 Team Building and Problem-Solving	
MGTDEV-164 Personal Skills for Supervisors	
HRMGT-169 Diversity and Change Management	
MGTDEV-195 Managerial Communications	
TOTAL CREDITS:	12

System Administration and Security

Mequon Campus

Students learn how to administer Windows servers as well as Linux servers. The emphasis is not only on administration, but also on configuring a secure operating system.

COURSES	CREDITS
ITNET-112 MS Server Administration 1	3
ITNET-111 MS Server Administration 2	3
ITNET-161 Linux Overview	2
ITSEC-136 Unix/Linux Administration and Security	3
TOTAL CREDITS:	11

Water Technician

Mequon Campus

Gain the core skills recognized by the water industry for an entry-level position. The water technician performs basic, hands-on technical work, and this program is intended to be the first step of a career pathway in the industry. Attaining this certificate also enhances employment opportunities in the water sector for individuals with a college degree.

Admission requirements: A high school diploma or GED, one semester of high school-level algebra, and course placement assessment of proficiency in basic skills.

Career Pathway

Courses in this program can count toward the completion of MATC's Environmental Health and Water Quality Technology associate degree, see an MATC advisor.

COURSES	CREDITS
ENVHEL-109 Applied Environmental Chemistry	4
ENVHEL-142 Principles of Water Resources	3
MATH-107 College Mathematics ‡	3
(or) MATH-115	
(or) Any 200-series MATH course	
ENG-151 Communication Skills 1 ‡	3
(or) Any 200-series ENG course	
NATSCI-137 Comprehensive Technical Physics... ‡	4
(or) Any 200-series Physics course	
TOTAL CREDITS:	17

‡ Prerequisite required.

Program curriculum requirements are subject to change. All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher.

Certificate programs are not eligible for financial aid, and the student initiates the request for certificates upon completion; consult an MATC advisor for information.

Unless otherwise noted, start dates are August/January.

MATC graduates serve the community in a variety of healthcare settings. With hands-on training in the school's innovative labs and at off-campus clinical sites, MATC's programs emphasize learning the latest technology associated with these occupations.

Call 414-297-6263 for information about programs in the School of Health Sciences.

Petition Process

Most programs in the School of Health Sciences admit students through a petition selection process. The program's web page on matc.edu has details on the petition process, including residency criteria.

For all degree programs, students who have not been accepted, or have not decided on a program, may begin with General Studies courses if course prerequisites have been met.

Requirements for School of Health Sciences Programs

Students must achieve the minimum required grades as specified for the program. All School of Health Sciences students are required to complete and submit a health record

profile. Clinical/field placement will not be made if the student fails to meet health and criminal background check documentation requirements.

Start Your Four-Year Degree at MATC

Associate degree programs will transfer to one or more four-year colleges or universities. If you are interested in pursuing a bachelor's degree upon completion of an MATC associate degree program, check with your advisor and the institution you plan to attend regarding the transfer of MATC credits.

Health Education Center (HEC)

When you register for classes, note that some courses are taught at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street (Sixth Street and McKinley Avenue).

For class times and locations or to register online, visit INFOline at matc.edu.

Anesthesia Technology

Associate in Applied Science Degree, page 97

Cardiovascular Technology

Associate in Applied Science Degree, page 98

Dental Assistant

Technical Diploma, page 99

Dental Hygiene

Associate in Applied Science Degree, page 100

Dental Technician

Technical Diploma, page 101

Dietetic Technician

Associate in Applied Science Degree, page 102

Funeral Service

Associate in Applied Science Degree, page 103

Health Information Technology

Associate in Applied Science Degree, page 104

Health Unit Coordinator

Technical Diploma, page 105

Healthcare Services Management

Associate in Applied Science Degree, page 106

Individualized Technical Studies

Associate in Applied Science Degree
For details about this individualized degree, see page 63 in the School of Business

Medical Assistant

Technical Diploma, page 107

Medical Coding Specialist

Technical Diploma, page 108

Medical Interpreter

Technical Diploma, page 109

Medical Laboratory Technician

Associate in Applied Science Degree, page 110

Nursing Assistant

Technical Diploma, page 111

Occupational Therapy Assistant

Associate in Applied Science Degree, page 112

Optician – Vision Care

Technical Diploma, page 113

Pharmacy Technician

Technical Diploma, page 114

Phlebotomy

Technical Diploma, page 115

Physical Therapist Assistant

Associate in Applied Science Degree, page 116

Practical Nursing

LPN-RN Educational Progression

Associate in Applied Science Degree, page 117

Radiography

Associate in Applied Science Degree, page 118

Registered Nursing

(1+1 Practical Nursing program)

Associate in Applied Science Degree, page 119

Renal Dialysis Technician

Technical Diploma, page 120

Respiratory Therapist

Associate in Applied Science Degree, page 121

Surgical Technology

Associate in Applied Science Degree, page 122

CERTIFICATE PROGRAMS, page 123

Dietary Manager

Healthcare Customer Service

Anesthesia Technology

ASSOCIATE DEGREE

Program Code: 10-541-1

Downtown Milwaukee Campus

Become an integral member of an anesthesia team in a surgical setting through this Associate in Applied Science degree program. You will be educated in the theoretical concepts and clinical applications in the on-campus surgical suite, where you learn professional skills prior to having patient contact. These skills include assisting with intubations, assembling monitoring lines, patient transport, interpreting physiological information, patient preparation and patient positioning. Additionally, you will be assigned to various hospitals as part of your clinical phase of education, and you will practice your skills in an actual operating room setting under the supervision of an anesthesia technologist. Program graduates will be eligible to sit for the American Society of Anesthesia Technologists & Technicians (ASATT) certification examination, to become a Certified Anesthesia Technologist (CerATT).

Career Outlook

In addition to employment in surgical centers, opportunities exist in medical equipment sales. For additional career information, visit ASATT.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Assist the anesthesiologist with patient care
- Exhibit patient care skills and monitor patients
- Provide psychological support and explain procedures to patients
- Work under minimum supervision
- Perform lifting and transferring duties
- Understand basic anatomy, physiology and surgical procedures
- Apply aseptic techniques in preparing and handling instruments and supplies

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology, chemistry and algebra; and course placement assessment of basic skills proficiency.

Related Programs

Cardiovascular Technology, Surgical Technology

Start Date: August

For Information

414-297-6263, matc.edu



TECHNICAL STUDIES

Credits

(1) ANTECH-102	Introduction to Anesthesia Technology ‡	2
(1) HEALTH-101	Medical Terminology	3
(2) ANTECH-117	AT Fundamentals 1 ‡	3
(2) ANTECH-118	AT Instrumentation 1 ‡	3
(2) CVTECH-110	EKG Analysis ‡	2
(5) ANTECH-120	AT Clinical Procedures ‡	2
(3) ANTECH-133	Anesthetics ‡	3
(3) ANTECH-137	AT Fundamentals 2 ‡	3
(3) ANTECH-138	AT Instrumentation 2 ‡	3
(3) ANTECH-139	Anesthesia Technology Clinical Experience 1 ‡	3
(3) CVTECH-132	Physics of Medicine ‡	3
(4) ANTECH-185	Anesthesia Technology Clinical Seminar ‡	2
(4) ANTECH-186	Anesthesia Technology Clinical Experience 2 ‡	4
(4) ANTECH-187	Anesthesia Technology Clinical Experience 3 ‡	4

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177	General Anatomy and Physiology ‡	4
(&) NATSCI-179	Advanced Anatomy and Physiology ‡	4
	(or) NATSCI-201 and NATSCI-202	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

HEALTH-104	Healthcare Customer Service
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

S = Summer.

() = Semester order for full-time students.

Required Health (HEALTH) and Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.

Possible Careers: Anesthesia Technician, Lead Anesthesia Technician, Anesthesia Technician Supervisor

Cardiovascular Technology

ASSOCIATE DEGREE

Program Code: 10-521-1

Downtown Milwaukee Campus

This Associate in Applied Science program prepares students for cardiovascular technology (CVT) careers; program applicants must specify either the invasive CVT (Cardiac Cath Lab) or noninvasive CVT (Echocardiography) subspecialty. You will learn theoretical concepts and clinical applications of procedures used to diagnose and relieve the symptoms of various cardiac pathologies. The program begins with one year of general CVT coursework, then each subspecialty will focus on its unique curriculum. Hands-on instruction occurs in MATC's on-campus laboratories and Sim-labs, as well as in Cath Labs and in Echocardiography departments of area hospitals. Clinical externships will include assignments in various local hospitals under the direction of an experienced CVT. The Commission on Accreditation of Allied Health Education Programs accredited both the invasive and echocardiography portions of this program in cooperation with the Joint Review Committee (JRC-CVT).

Successful completion fulfills necessary prerequisites to take Registered Cardiovascular Invasive Specialist exam or Registered Cardiac Sonographer (CCI) or Registered Diagnostic Cardiac Sonographer (ARDMS) exam.

Career Outlook

Continuing demand for CVTs indicates exceptional employment possibilities. For career information regarding Cath Lab, visit cathlabdigest.com or sicc.com; for career information regarding Echocardiography, see asecho.org.

Program Learning Outcomes

- Exhibit patient care skills
- Explain diagnostic procedures and provide support to patients
- Work independently
- Understand basic anatomy, physiology and operative procedures
- Apply aseptic techniques in preparing and handling instruments
- Work as a member of a healthcare team

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology, chemistry and algebra; and course placement assessment of basic skills proficiency.

Start Date: January

For Information

414-297-6263, matc.edu
Possible Careers: Cath Lab Technologist, Echocardiographer

TECHNICAL STUDIES

Credits

(2) CVTECH-102	Introduction to Cardiovascular Technology ‡	2
(2) CVTECH-110	EKG Analysis ‡	2
(2) CVTECH-115	Essentials of Cardiovascular Care 1 ‡	4
(2) CVTECH-117	Invasive CVT Fundamentals 1 ‡	4
(2) CVTECH-118	Introduction to Echocardiography ‡	3

INVASIVE (10-521-1.A)

(5) CVTECH-120	Invasive CVT Clinical Procedures ‡	2
(3) CVTECH-132	Physics of Medicine ‡	3
(3) CVTECH-134	Cardiovascular Hemodynamics ‡	3
(3) CVTECH-135	Essentials of Cardiovascular Care 2 ‡	4
(3) CVTECH-137	Invasive CVT Fundamentals 2 ‡	4
(3) CVTECH-139	Invasive CVT Clinical Experience 1 ‡	2
(4) CVTECH-133	Cardiovascular Agents ‡	3
(4) CVTECH-185	Invasive CVT Clinical Seminar ‡	2
(4) CVTECH-186	Invasive CVT Clinical Experience 2 ‡	4
(4) CVTECH-187	Invasive CVT Clinical Experience 3 ‡	4

ECHOCARDIOGRAPHY (10-521-1.B)

(5) CVTECH-121	Echocardiography Clinical Procedures ‡	2
(3) CVTECH-142	Echocardiography Case Review ‡	3
(3) CVTECH-140	Echocardiography Instrumentation ‡	4
(3) CVTECH-144	Advanced Echocardiography Practicum ‡	3
(3) CVTECH-145	Echocardiography Fundamentals ‡	4
(3) CVTECH-149	Echocardiography Clinical Experience 1 ‡	2
(4) CVTECH-143	Ultrasound Principles and Physics ‡	3
(4) CVTECH-195	Echocardiography Clinical Seminar ‡	2
(4) CVTECH-196	Echocardiography Clinical Experience 2 ‡	4
(4) CVTECH-197	Echocardiography Clinical Experience 3 ‡	4

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-260	Basic Statistics ‡	3
NATSCI-197	Microbiology*	4
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) SOCSCI-210 Death and Dying	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

HEALTH-101	Medical Terminology
HEALTH-107	Introduction to Computing for Healthcare
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 70

‡ Prerequisite required.

* CVT students are not required to take NATSCI-177/179 or 201/202 as prerequisite to NATSCI-197; go to INFOnline and submit a waiver indicating you are a CVT student. () = Semester order for full-time students.

S = Summer. Program curriculum requirements are subject to change.

Required Mathematics (MATH) and Natural Science (NATSCI)
courses must be completed with a grade of B- or better in each course.

Dental Assistant

TECHNICAL DIPLOMA

Program Code: 30-508-2

Downtown Milwaukee Campus

Through this one-semester program, students learn and perform a variety of patient care techniques done under the supervision of the dentist during examination and treatment of patients. Other duties typically performed by a dental assistant include preparing patients for treatment, exposing and processing radiographs, assisting with dental procedures and obtaining dental records. Courses in the curriculum blend both academic and clinical competencies. The student will practice these skills during 128 hours of clinical experience in a dental practice. Attributes that will contribute to your success include a neat and well-groomed appearance, conscientious work habits and good interpersonal skills.

A Dental Assistant-Bilingual diploma also is available.

Career Outlook

Employment opportunities for trained dental assistants are plentiful in private offices, hospitals and clinic settings. For more information, visit the Dental Assisting National Board, danb.org or the American Dental Association, ada.org.

Program Learning Outcomes

- Relate dental anatomy and terminology to dental procedures
- Recognize the importance of proper infection control and instrument and equipment sterilization
- Demonstrate proper techniques for exposing, processing and mounting dental x-ray films
- Provide the dentist with accurate patient records
- Provide patients with oral hygiene instruction
- Perform expanded duties such as temporary crown fabrication and coronal polishing
- Prepare treatment rooms for dental procedures
- Demonstrate professionalism, communication and human relation skills, and ethical/legal practices

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu to view the petition process. In addition, one year of high school-level biology or chemistry is helpful for this program.

Related Programs

Dental Hygiene, Dental Technician

Start Dates: August/January

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

Credits

DENHYG-101	Dental Health Safety ‡	1
DENHYG-113	Dental Materials ‡	2
DENAST-302	Dental Chairsides ‡	5
DENAST-304	Dental and General Anatomy ‡	2
DENAST-305	Applied Dental Radiography ‡	2
	(or) DENHYG-103 Dental Radiography ‡	
DENAST-306	Dental Assistant – Clinical ‡	3
DENAST-307	Dental Assistant Professionalism ‡	1

TOTAL CREDITS: 16

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Dental Hygiene

ASSOCIATE DEGREE

Program Code: 10-508-1

Downtown Milwaukee Campus

This Associate in Applied Science degree program blends academic and clinical courses. Clinical experience is acquired in the dental hygiene clinic at MATC and several external sites. Upon program completion, you will be eligible to write the National Board of Dental Hygiene examination, and state or regional practical examinations. Licensure is required to work as a dental hygienist. The American Dental Hygienists Association website provides additional professional information at adha.org. This program is accredited with reporting by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the U.S. Department of Education.

Career Outlook

Positions may be found in private dental offices, nursing homes, school settings and private enterprise. The clinical practice includes administering oral preventive treatment, fluoride and local anesthetic; exposing and processing dental x-ray films; and dental health counseling.

Program Learning Outcomes

- Model dental hygiene professional code of ethics
- Counsel patients to reduce health risks
- Provide community oral health services in a variety of settings
- Manage infection and hazard control
- Assess data on all aspects of patient health using methods consistent with dental hygienist scope of practice and legal principles
- Formulate a comprehensive dental hygiene care plan in collaboration with the patient and other health professionals
- Provide preventive and therapeutic services that promote oral health according to the needs of the patient
- Evaluate the effectiveness of the implemented dental hygiene care plan

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Related Programs

Dental Assistant, Dental Technician

Start Dates: August/January

For Information

414-297-6263, matc.edu



Possible Career: Dental Hygienist

TECHNICAL STUDIES

Credits

(1) DENHYG-101	Dental Health Safety* ‡	1
(1) DENHYG-102	Oral Anatomy, Embryology and Histology ‡	4
(1) DENHYG-103	Dental Radiography ‡	2
(1) DENHYG-105	Dental Hygiene Process 1 ‡	4
(2) DENHYG-106	Dental Hygiene Process 2 ‡	4
(2) DENHYG-107	Dental Hygiene Ethics and Professionalism ‡	1
(2) DENHYG-108	Periodontology ‡	3
(2) DENHYG-109	Cariology ‡	1
(2) DENHYG-110	Nutrition and Oral Health ‡	2
(2) DENHYG-111	General and Oral Pathology ‡	3
(3) DENHYG-112	Dental Hygiene Process 3 ‡	5
(3) DENHYG-113	Dental Materials ‡	2
(3) DENHYG-114	Dental Pharmacology ‡	2
(3) DENHYG-115	Community Dental Health ‡	2
(3) DENHYG-116	Dental Pain Management ‡	1
(4) DENHYG-117	Dental Hygiene Process 4 ‡	4

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177	General Anatomy and Physiology ‡	4
	(or) NATSCI-201 and NATSCI-202	
	Anatomy & Physiology 1 and 2	
NATSCI-186	Introductory Biochemistry ‡	4
	(or) NATSCI-209 Chemistry for Health Sciences	
NATSCI-197	Microbiology ‡	4
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

DENHYG-130	Transitions to Dental Practice
DENHYG-165	Clinical Dental Hygiene Practicum
HRMGT-169	Diversity and Change Management
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 70

‡ Prerequisite required. () = Semester order for full-time students.

Program curriculum requirements are subject to change.

* Take this course the semester prior to starting the Technical Studies courses.

Required Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.

All Liberal Arts and Sciences and elective courses required for the program must be completed with a grade of C or better.

Dental Technician

TECHNICAL DIPLOMA

Program Code: 30-507-1

Downtown Milwaukee Campus

Through this two-semester diploma program, you will learn to fabricate dental restorations, including metal and ceramic crowns and bridges and complete dentures. The curriculum also includes dental terminology and dental anatomy. Students will acquire laboratory skills through hands-on experience in a well-equipped dental laboratory on the MATC campus. Important skills include hand/eye coordination, manual dexterity, and ability to use small hand instruments with precision. You also will need to be an independent worker. After completing a work experience requirement, you may apply for certification by the National Board of Certification.

Career Outlook

An increasing demand for aesthetic dentistry and the aging population are creating a growing demand for dental technicians. Opportunities exist in commercial dental laboratories, and laboratories in dental offices and clinics. Dental technicians also are employed as sales or manufacturers' representatives. For career information, visit National Association of Dental Laboratories at nadl.org or American Dental Association at ada.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Relate concepts of oral anatomy, morphology and occlusion to dental laboratory procedures
- Competently perform laboratory techniques and procedures
- Observe proper infection control procedures
- Use dental terminology appropriately
- Utilize dental materials with consideration of their chemical and physical properties
- Assume the role of the dental laboratory technician as a member of the dental healthcare team

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED, and course placement assessment of basic skills proficiency.

Related Programs

Dental Assistant, Dental Hygiene

Start Date: August

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

Credits

DLABT-102	Dental Anatomy ‡	5
DLABT-111	Introduction to Complete Dentures ‡	5
DLABT-121	Introduction to Crown and Bridge ‡	5
DLABT-128	Dental Ceramics ‡	4

TOTAL CREDITS: 19

‡ Prerequisite required.

Program curriculum requirements are subject to change.



Possible Careers: Dental Ceramicist, Dental Laboratory Technician, Dental Technician, Laboratory Manager

Dietetic Technician

ASSOCIATE DEGREE

Program Code: 10-313-1

West Allis Campus

Dietetics is the science of managing food and nutrition to promote health. This Associate in Applied Science degree program provides theoretical instruction, supervised clinical experience and field experience. It is granted accreditation status by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics, 120 South Riverside Plaza, Suite 2000, Chicago, IL 60606-6995; 312-899-0040. As a graduate, you are eligible for technician membership in the Academy of Nutrition and Dietetics and will receive the title Dietetic Technician Registered (DTR), signifying professional competence, upon successful completion of the national registration exam. DTRs must complete a Professional Development Portfolio every five years to maintain this credential.

Career Pathway

On the way to completing this degree, take the four specified Technical Studies courses to be eligible for the Certified Dietary Manager exam.

Career Outlook

A dietetic technician typically works as a member of the food service or healthcare team, employed by hospitals, public health nutrition programs, school lunch programs, nutrition programs for the elderly and food service management firms. For career information, visit eatright.org.

Program Learning Outcomes

- Employ effective communication skills (writing, speaking and listening) and use various communication channels
- Perform some of the steps in the Nutrition Care Process in a variety of settings
- Demonstrate effective management skills and behavior
- Demonstrate skills necessary to collaborate effectively with the management team and offering food to clients that is safe, high quality, meets budget, is aesthetically pleasing, and reflects current nutrition practices
- Model professional skills and behaviors (ethical practice, commitment to lifelong learning, collaborate and work well with others)
- Demonstrate the ability to think critically

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Start Dates: August/January

For Information

414-297-6263, matc.edu



TECHNICAL STUDIES

Credits

(1) DIETNT-106	Food Service Sanitation ^.....	2
(1) DIETNT-107	Food Science.....	2
(1) DIETNT-123	Dietetic Technician Orientation	1
(1) DIETNT-151	Nutrition for Dietetics ^.....	4
(1) DIETNT-160	Medical Terminology for the Dietetic Technician.....	1
(2) DIETNT-108	Food Service Management 1 ‡ ^	3
(2) DIETNT-118	Food Service Management 1: Coordinated Practice ‡ ^ ...	1
(2) DIETNT-124	Medical Nutrition Therapy 1 ‡	3
(2) DIETNT-134	Medical Nutrition Therapy 1: Coordinated Practice ‡ ...	1
(2) DIETNT-152	Physiology for Dietetics ‡	3
(2) DIETNT-156	Nutrition in the Life Cycle ‡	2
(2) DIETNT-166	Nutrition in the Life Cycle: Coordinated Practice ‡	1
(3) DIETNT-125	Medical Nutrition Therapy 2 ‡	4
(3) DIETNT-135	Medical Nutrition Therapy 2: Coordinated Practice ‡ ...	2
(3) DIETNT-157	Food Service Management 2 ‡	3
(3) DIETNT-167	Food Service Management 2: Coordinated Practice ‡ ..	2
(3) DIETNT-155	Community Nutrition ‡	3
(4) DIETNT-127	Seminar in Dietetics ‡	1
(4) DIETNT-136	Medical Nutrition Therapy Field Experience ‡	3
(4) DIETNT-146	Food and Nutrition Management Field Experience ‡ ...	3
(4) DIETNT-170	Nutritional Counseling Skills ‡	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics.....	3
	(or) Any 200-series MATH course	
NATSCI-172	Basic Nutritional Science	3
	(or) NATSCI-220 Introduction to Nutritional Science	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

DIETNT-120	Nutrition for Living
FLANG-117	Conversational Spanish for Service Occupations 1
SOCSCI-210	Death and Dying

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Students completing these four courses are eligible to take the Association of Food and Nutrition Professionals Certified Dietary Manager examination.

() = Semester order for full-time students.

Required Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.

Possible Careers: Dietetic Technician, Dietary Manager, Nutrition Counselor, Food Service Manager

Funeral Service

ASSOCIATE DEGREE

Program Code: 10-528-1

West Allis Campus

Funeral Service is an associate degree program that prepares you for a career as a licensed funeral director and embalmer. This program offers on-campus laboratories fully equipped with state-of-the-art equipment.

For information about the curriculum for the 2015-16 academic year, see matc.edu.

As of October 12, 2014, this program has been placed on probation by the American Board of Funeral Service Education (ABFSE) - Committee on Accreditation (COA) for violation of one or more standards of accreditation.

The Associate in Applied Science degree in the Funeral Service program at Milwaukee Area Technical College is accredited by the American Board of Funeral Service Education (ABFSE), 3414 Ashland Avenue, Suite G, St. Joseph, Missouri 64506; (816) 233-3747, www.ABFSE.org and is recognized by the Wisconsin Funeral Directors Examining Board.

The annual passage rate of first-time takers of the National Board Examination (NBE) for the most recent three-year period for this institution and all ABFSE-accredited funeral service education programs is posted on the ABFSE website, www.ABFSE.org.

There continues to be high demand for licensed funeral directors and embalmers. For career information, visit www.wfda.org, www.nfda.org or www.ABFSE.org.

Mortuary Science Program Aims

The MATC Funeral Service program has as its central aim recognition of the importance of funeral service personnel as:

- Members of a human services profession;
- Members of the community in which they serve;
- Participants in the relationship between bereaved families and those engaged in the funeral service profession;
- Professionals knowledgeable of and compliant with federal, state and local regulatory guidelines, as well as;
- Professionals sensitive to the responsibility for public health, safety and welfare in caring for human remains.

Mortuary Science Program Objectives

The Mortuary Science Program Objectives are:

- To enlarge the background and knowledge of students about the funeral service profession;
- To educate students in every phase of funeral service, and to help them to develop proficiency and skills necessary for the profession, as defined in the Preamble of the American Board of Funeral Service Education (ABFSE) Standards for accreditation;
- To educate students concerning the responsibilities of the funeral service profession to the community at large;
- To emphasize high standards of ethical and moral conduct;
- To provide a curriculum at the postsecondary level of instruction;
- To encourage student and faculty research in the field of funeral service;
- To qualify students for professional licensure examination.

Program Learning Outcomes

- Prepare the dead human body for viewing, including case analysis, embalming, cosmetizing and restorations
- Comply with OSHA Bloodborne Pathogen Standards
- Demonstrate the abilities to coordinate people and activities
- Anticipate and meet the needs of mourners in a tactful, discreet and compassionate manner
- Apply counseling skills to the arrangement of funerals
- Be familiar with the burial rituals of various religious faiths and fraternal organizations

Admission Requirements – This program admits students through a petition selection process; go to matc.edu and visit this program's web page to view the petition process, including the residency criteria.

This program requires a minimum cumulative GPA of 2.5 to petition.

Special Admission Requirement – A minimum of 57 college credits, in areas specified by the State Board of Examiners, with a grade of C or better, are required for admission into the Funeral Service program.

Start Date: August

For Information

414-297-6263, matc.edu



Health Information Technology

ASSOCIATE DEGREE

Program Code: 10-530-1

Downtown Milwaukee Campus

Using the latest technology, health information technicians collect, analyze and report healthcare data while protecting the integrity and confidentiality of patient health information. The health information technician requires knowledge of diseases and treatments, computer systems, regulatory and ethical issues, as well as management and organizational skills. Graduating with this Associate in Applied Science degree, you may work in a variety of healthcare settings such as hospitals, clinics, ambulatory surgery centers, long-term care facilities, in addition to government agencies, insurance companies and IT software companies.

Career Pathway

You can earn the Medical Coding Specialist technical diploma on your way to completing this degree.

Career Outlook

The U.S. Bureau of Labor and Statistics cites health information technology as one of the fastest growing occupational areas in the nation. In the workplace, you also will be introduced to the role of health information manager who is responsible for planning, organizing, controlling, coordinating and following up on all activities in the health information management department.

Program Learning Outcomes

Employers will expect program graduates to:

- Manage health data
- Apply coding and reimbursement systems
- Model professional behavior and ethics
- Maintain electronic applications to manage health information
- Apply organizational management techniques

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level chemistry; and course placement assessment of basic skills proficiency.

Related Programs

Medical Coding Specialist, Healthcare Services Management, Medical Administrative Specialist

Start Dates: August/January

For Information

414-297-6263, matc.edu

TECHNICAL STUDIES

Credits

(1) HEALTH-101	Medical Terminology ^	3
(1) HIT-181	Introduction to the Health Record ‡ ^	1
(1) HIT-182	Human Diseases for Health Professions ‡ ^	3
(1) HIT-197	ICD Diagnosis Coding ^	3
(1) HIT-199	ICD Procedure Coding ^	2
(2) HEALTH-107	Introduction to Computing for Healthcare ^	2
(2) HIT-176	Healthcare Data Management ‡ ^	2
(2) HIT-184	CPT Coding ‡ ^	3
(2) HIT-185	Healthcare Reimbursement ‡ ^	2
(2) HIT-195	Applied Coding ‡ ^	2
(3) HIT-178	Healthcare Law and Ethics ‡	2
(3) HIT-160	Healthcare Informatics ‡	4
(3) HIT-177	Healthcare Stats and Research ‡	2
(3) HIT-196	Professional Practice 1 ‡	3
(4) HIT-161	Health Quality Management ‡	3
(4) HIT-194	HIM Organizational Resources ‡	2
(4) HIT-198	Professional Practice 2 ‡	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177	General Anatomy and Physiology ^	4
NATSCI-172	Basic Nutritional Science	3
PSYCH-188	Developmental Psychology	3
SOCSCI-172	Introduction to Diversity Studies	3
SOCSCI-197	Contemporary American Society	3

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Medical Coding Specialist diploma.

() = Semester order for full-time students.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Health Unit Coordinator

TECHNICAL DIPLOMA

Program Code: 30-510-2

Downtown Milwaukee Campus

This fast-paced diploma program prepares you to coordinate nondirect patient-care tasks including order transcription, clerical support functions and customer service interactions, as well as taking direction from physicians, nurses and other health professionals. Personal attributes that will contribute to success include professional communication and interpersonal skills, conscientious work habits for punctuality and attendance, empathy, the ability to multitask, as well as work efficiently and accurately under pressure.



Career Pathway

You can earn the Healthcare Customer Service certificate on your way to completing this program. After earning the Health Unit Coordinator diploma, the credits can be applied toward completing the Healthcare Services Management associate degree.

Career Outlook

Health unit coordinators are valued professionals on the healthcare team and the demand for this profession continues to grow. Graduates may be employed in hospitals, long-term care facilities or clinics. For career information, visit nahuc.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Communicate professionally in the healthcare environment
- Coordinate health unit operations
- Integrate the role of the health unit coordinator in the healthcare system
- Manage client information
- Transcribe medical orders

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu to view the petition process.

Demonstration of keyboarding skills is a co-prerequisite to HUC-303.

Related Programs

Healthcare Services Management, Health Information Technology, Registered Nursing

Start Dates: August/January

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

Credits

HEALTH-101	Medical Terminology* ^	3
HEALTH-104	Healthcare Customer Service* ^	2
HEALTH-107	Introduction to Computing for Healthcare* ^	2
HUC-301	Health Unit Coordinator Procedures 1 ‡ (6 weeks)	3
HUC-302	Health Unit Coordinator Procedures 2 ‡ (6 weeks)	3
HUC-303	Health Unit Coordinator Clinical ‡ (4 weeks)	3

TOTAL CREDITS: 16

‡ Prerequisite required.

* May be taken prior to entering the program.

Program curriculum requirements are subject to change.

^ Counts toward earning the Healthcare Customer Service certificate.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Healthcare Services Management

ASSOCIATE DEGREE

Program Code: 10-530-3

Downtown Milwaukee Campus

This Associate in Applied Science degree program prepares you to demonstrate leadership skills, supervise support staff, and ensure that the healthcare facility's workflow is running efficiently and according to prescribed quality standards.

Career Pathway

You can earn the Health Unit Coordinator or Phlebotomy technical diploma on your way to completing this degree.

Career Outlook

Because employers in healthcare systems seek individuals who can function in multiple capacities, the demand for this profession continues to grow. Graduates may be employed in hospitals, outpatient departments, physicians' offices, clinics, laboratories and long-term care facilities.

Program Learning Outcomes

Employers will expect program graduates to:

- Integrate the skills of healthcare services management within the designated healthcare workplace
- Employ continuous quality standards
- Communicate professionally in the healthcare environment
- Demonstrate leadership skills including multitasking, critical thinking, problem-solving/decision-making, diplomacy, prioritization and accuracy
- Employ a strong work ethic
- Maintain a safe work environment for support staff as well as external and internal customers
- Assist support medical staff as needed
- Assign and regulate support staff functions including delegating responsibility

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Students who seek diploma preparation opportunities before/while completing the requirements for Healthcare Services Management will choose either Career Path One or Career Path Two in the curriculum. Career Path Three is for students who have healthcare-related program preparation or a previously earned degree or diploma.

Start Date: August

For Information

414-297-6263, matc.edu



Possible Careers: Healthcare Services Manager, Supervisor, Lead Worker

TECHNICAL STUDIES

Credits

(1) HEALTH-101	Medical Terminology ^ *	3
(1) HEALTH-104	Healthcare Customer Service ^	2
(1) HEALTH-107	Introduction to Computing for Healthcare ^ *	2
(1) RBUS-102	Mathematics of Business	3
(1) BADM-155	Management Principles ‡	3
(2) BADM-165	Legal Environment of Business	3
(2) HRMGT-193	Human Resource Management	3
(3) HSM-144	Introduction to the Business of Healthcare ‡	3
(3) HSM-145	Healthcare Law, Ethics and Professional Standards ‡	3
(3) ACCTG-110	Financial Accounting ‡	3
(3) BADM-104	Business Statistics ‡	3
(4) HSM-143	Healthcare Quality Management ‡	2
(4) HSM-146	Leadership in Healthcare Organizations ‡	3
(4) BADM-126	Business Finance ‡	3

Career Path One (Diploma Preparation):

HEALTH UNIT COORDINATOR

(2) HSM-140	Health Unit Coordinator Procedures 1 ‡ ^	3
(3) HSM-141	Health Unit Coordinator Procedures 2 ‡ ^	3
(4) HSM-142	Health Unit Coordinator Clinical Externship ‡ ^	3

Career Path Two (Diploma Preparation):

PHLEBOTOMY

(2) CLABT-110	Basic Lab Skills ‡ *	1
(2) CLABT-111	Phlebotomy ‡ *	2
(3) MLABT-161	Computer Applications for the Medical Lab ‡ *	1
(3) MLABT-166	Phlebotomy Clinical Experience ‡ *	3
	Two Credits of Electives	2

Career Path Three (Advanced):

HEALTH SCIENCES RELATED PREPARATION up to 9

Students who have healthcare-related program preparation or a previously earned diploma/degree are eligible to receive up to nine credits of Advanced Standing toward the Healthcare Services Management associate degree.

GENERAL STUDIES (For all three career pathways)

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ *	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-189	Basic Anatomy	3
	(or) NATSCI-177 General Anatomy and Physiology ‡	
	(or) NATSCI-201 Anatomy and Physiology 1 ‡	
PSYCH-199	Psychology of Human Relations *	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

TOTAL CREDITS: 69

* Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Health Unit Coordinator diploma.

* Counts toward earning the Phlebotomy diploma.

() = Semester order for full-time students.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Medical Assistant

TECHNICAL DIPLOMA

Program Code: 31-509-1

Downtown Milwaukee Campus

Medical Assistant is a two-semester program that emphasizes the skills and knowledge needed to work in doctors' offices, clinics, hospitals and other medical facilities. During the Medical Assistant clinical course, you will have an opportunity to acquire experience in healthcare facilities. A healthcare provider Cardiopulmonary Resuscitation (CPR) certificate and a first aid certificate are prerequisites for entry into the first clinical course. As a graduate of the program, you will be eligible to write the AAMA exam to qualify as a Certified Medical Assistant.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (caahep.org) upon the recommendation of the Medical Assisting Education Review Board (MAERB) Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756; 727-210-2350.

Career Outlook

The demand for Certified Medical Assistants continues to grow. Graduates perform various functions such as drawing blood, administering EKGs and doing lab procedures. In some medical offices, medical assistants also serve as receptionists and billing clerks. For career information, visit aama-ntl.org.

Program Learning Outcomes

- Perform clerical functions
- Perform bookkeeping procedures
- Prepare special accounting entries
- Apply principles of medical asepsis
- Perform specimen collection
- Perform diagnostic testing
- Process insurance claims
- Provide patient care
- Communicate effectively
- Apply legal and ethical concepts
- Instruct patients
- Perform medical office operational functions
- Demonstrate professionalism in a healthcare setting

Related Programs

Health Unit Coordinator, Medical Administrative Specialist, Medical Coding Specialist

Start Dates: August/January

For Information

414-297-6263, matc.edu



Admission Requirements

This program admits students through a petition selection process; see the program's web page at matc.edu. Prior coursework in biology is recommended.

SIXTEEN-WEEK TERMS		Credits
HEALTH-101	Medical Terminology*	3
HEALTH-107	Introduction to Computing for Healthcare*	2
MEDAST-301	Medical Assistant Administrative Procedures ‡	2
MEDAST-302	Human Body in Health and Disease* ‡	3
MEDAST-303	Medical Assistant Lab Procedures 1 ‡	2
MEDAST-304	Medical Assistant Clinical Procedures 1 ‡	4
MEDAST-305	Medical Assistant Laboratory Procedures 2 ‡	2
MEDAST-306	Medical Assistant Clinical Procedures 2** ‡	3
MEDAST-307	Medical Office Insurance and Finance ‡	2
HEALTH-308	Pharmacology for Allied Health ‡	2
MEDAST-309	Medical Law, Ethics and Professionalism	2
MEDAST-310	Medical Assistant Practicum** ‡	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3

TOTAL CREDITS: 33

‡ Prerequisite required.

Program curriculum requirements are subject to change.

* May be taken prior to entering the program.

** **MEDAST-306 and MEDAST-310 must be taken in the same semester.**

All MEDAST courses must be completed within 18 months of starting technical courses in the program.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Possible Careers: Medical Assistant, Certified Medical Assistant (CMA), Office Manager

Medical Coding Specialist

TECHNICAL DIPLOMA

Program Code: 31-530-2

Downtown Milwaukee Campus

The Medical Coding Specialist program prepares students for employment as entry-level coding specialists in a variety of healthcare settings. Students learn to assign diagnosis and procedure codes using two different coding systems. These codes are taken from patient records and physician documentation. The codes are used for billing and reimbursement purposes, as well as data collection and medical research.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Health Information Technology associate degree.

Career Outlook

Graduates of this program can become certified through the American Health Information Management Association and the American Academy of Professional Coders. The employment outlook is favorable.

Program Learning Outcomes

Employers will expect program graduates to:

- Classify medical data from patient records
- Review patients' records and assign numeric codes for each diagnosis and procedure
- Have expertise in the various coding systems
- Work with detailed data quickly and accurately
- Demonstrate professionalism in a healthcare setting
- Be an integral member of the healthcare team
- Communicate effectively

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level chemistry; and course placement assessment of basic skills proficiency.

Related Programs

Health Information Technology, Medical Administrative Specialist

Start Date: August

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

Credits

HEALTH-101	Medical Terminology.....	3
HIT-181	Introduction to the Health Record ‡.....	1
NATSCI-177	General Anatomy/Physiology.....	4
HIT-182	Human Disease for Health Professions ‡.....	3
HEALTH-107	Introduction to Computing for Healthcare.....	2
HIT-197	ICD Diagnosis Coding.....	3
HIT-199	ICD Procedure Coding.....	2
HIT-184	CPT Coding ‡.....	3
HIT-185	Healthcare Reimbursement ‡.....	2
HIT-195	Applied Coding ‡.....	2
HIT-176	Healthcare Data Management ‡.....	2

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Medical Interpreter

TECHNICAL DIPLOMA

Program Code: 30-538-1

Downtown Milwaukee Campus

This two-semester program prepares you for employment to facilitate communication between medical personnel and patients with limited English proficiency. It will enhance your nonverbal communication, knowledge of regional language variations and cultural nuances required for effective medical interpretation.

Personal attributes that will contribute to success as a medical interpreter include: Spanish/English proficiency, effective communication and interpersonal skills, conscientious work habits as related to punctuality and attendance, empathy to work with patients with limited English proficiency, and the ability to perform efficiently and accurately under pressure.

Career Outlook

This program prepares you to provide interpretation services for patients with limited English proficiency and families whose primary language is Spanish. The increasing need for professionals within this growing field is due to our changing demographics, the need to provide quality of care through effective communication, the demands of cost efficiency, patient satisfaction and federal laws requiring language assistive services. For additional career information, see ncihc.org or imiaweb.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Aurally comprehend spoken English and Spanish
- Construct syntactically correct sentences (oral and written) in Spanish and English
- Correctly utilize medical terminology in English and Spanish
- Comprehend written materials in English and Spanish
- Render sight translations from either English to Spanish or Spanish to English

Admission Requirements

This program admits students through a petition selection process. Please see this program's web page at matc.edu to view the petition process.

Related Programs

Health Unit Coordinator, Medical Assistant

Start Date: August

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

	Credits
MEDINT-107 Bilingual Medical Terminology.....	4
MEDINT-103 Introduction to Medical Interpretation ‡	3
MEDINT-104 Applied Medical Interpretation 1	3
MEDINT-112 Dual Language Enhancement for Healthcare Providers ‡....	3
MEDINT-108 Ethics and Standards for Medical Interpreters.....	2
MEDINT-101 Cultural Awareness	3
MEDINT-102 Spanish Regionalisms and English Variants	1
MEDINT-106 Introduction to Medical Translation	2
MEDINT-110 Applied Medical Interpretation 2	2
MEDINT-111 Applied Medical Interpretation 3 ‡	1

TOTAL CREDITS: 24

‡ Prerequisite required.

Program curriculum requirements are subject to change.

All credits in this diploma must be earned at MATC with a 2.0 GPA or higher.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Medical Laboratory Technician

ASSOCIATE DEGREE

Program Code: 10-513-1

Downtown Milwaukee Campus

Prepare for employment as a medical laboratory technician (MLT) or clinical laboratory technician (CLT) in hospitals, clinics and doctors' offices through this Associate in Applied Science degree program. Opportunities also exist in commercial industries, scientific research and infection control. Students must be in attendance four to five days each week. Clinical experiences near the program's end are arranged at clinical laboratories.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Road, Suite 720, Rosemont, IL 60018; 312-714-8880. Upon completion of the program, you are eligible to write national certifying examinations.

Career Outlook

Currently the job market looks favorable. In the laboratory, the MLT and CLT perform analytical procedures under the supervision of a medical technologist or physician. For career information, visit ascp.org.

Program Learning Outcomes

- Apply modern clinical methodologies, including problem-solving and troubleshooting according to predetermined criteria
- Collect and process biological and other specimens
- Perform and report results of clinical laboratory tests
- Apply laboratory results to diagnosis of clinical conditions and/or diseases
- Participate in training peers on technical skills
- Monitor and evaluate quality control in the laboratory
- Practice laboratory safety and regulatory compliance
- Communicate with colleagues and patients in a professional manner
- Perform information processing in the clinical laboratory
- Model professional behavior, ethics and appearance

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level (or one semester of college-level) biology, chemistry and algebra; and course placement assessment of basic skills proficiency.

Start Dates: August/January

For Information

414-297-6263, matc.edu

TECHNICAL STUDIES

	Credits
(2) CLABT-110 Basic Lab Skills	1
(2) CLABT-111 Phlebotomy ‡	2
(3) CLABT-113 QA Lab Math ‡	1
(3) CLABT-114 Urinalysis ‡	2
(3) CLABT-115 Basic Immunology Concepts	2
(3) CLABT-120 Basic Hematology ‡	3
(3) CLABT-121 Coagulation ‡	1
(3) CLABT-109 Blood Bank ‡	4
(4) CLABT-130 Advanced Hematology ‡	2
(4) CLABT-131 Clinical Chemistry 1 ‡	3
(4) CLABT-132 Clinical Chemistry 2 ‡	2
(4) CLABT-133 Clinical Microbiology ‡	4
(4) CLABT-140 Advanced Microbiology ‡	2
(4) CLABT-143 Seminar ‡	1
(4) CLABT-151 Clinical Experience 1 ‡	3
(4) CLABT-152 Clinical Experience 2 ‡	4

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177 General Anatomy and Physiology ‡	4
(or) NATSCI-201 and NATSCI-202 Anatomy & Physiology 1 and 2	
NATSCI-186 Introductory Biochemistry ‡	4
(or) NATSCI-209 Chemistry for the Health Sciences	
NATSCI-197 Microbiology ‡	4
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

CLABT-145	Preclinical Experience
HEALTH-101	Medical Terminology

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Required Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.

Possible Careers: Clinical Laboratory Technician, Medical Laboratory Technician

Nursing Assistant

TECHNICAL DIPLOMA

Program Code: 30-543-1

All campuses

Nursing Assistant is a three-credit technical diploma program designed to prepare you for employment as an entry-level bedside caregiver in healthcare facilities such as hospitals and nursing homes, and home health agencies. This course fulfills a requirement for admission into the Registered Nursing degree program.

You will learn basic nursing skills and procedures needed to assist hospital clients, nursing home residents and home health clients with their daily living activities, specialized care and communication needs. Course curriculum and instruction focuses on preparation for the National Nurse Aide Assessment Program (NNAAP) and the state nurse aide curriculum. Graduates of the program are eligible to take part in NNAAP activities upon completion of the course; cost for this testing is not included in course fees or tuition.

Bilingual Option: Students are instructed in English, but selected sections are specific for the bilingual learner with instruction given in English and Spanish or with Spanish-language support from the bilingual education center.

Career Pathway

This course fulfills a requirement for admission into the Registered Nursing associate degree program.

Career Outlook

Employment opportunities are available through nursing homes, hospitals, home health agencies and private-duty practice settings. These positions work under the direction and supervision of licensed medical personnel, primarily registered nurses or licensed practical nurses.

Program Learning Outcomes

Employers will expect program graduates to:

- Provide safe, competent care to patients
- Practice principles of infection control
- Be able to identify and perform job-related procedures with attention to detail
- Work efficiently under pressure
- Possess good listening skills with an ability to follow instructions
- Demonstrate effective communication and observational skills
- Exercise tact and patience in interactions with others

Start Dates: August/January

For Information

414-297-6263, matc.edu

Admission Requirements

Health requirements, criminal background check and additional documents are required for admission; see this program's web page at matc.edu. A high school diploma or GED is recommended.

Success in the program is highly dependent on having a sincere concern for people; good physical and emotional health; excellent attendance record; an ability to communicate effectively with other healthcare personnel, patients and their families; and a neat, well-groomed appearance.

COURSE	Credits
NRSNA-300 Nursing Assistant ‡	3
TOTAL CREDITS:	3

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Occupational Therapy Assistant

ASSOCIATE DEGREE

Program Code: 10-514-1

Downtown Milwaukee Campus

This Associate in Applied Science degree program prepares you to become a Certified Occupational Therapy Assistant (COTA), or for related employment. The COTA typically provides services under the supervision of an occupational therapist using goal-directed activities to prevent, lessen or overcome difficulty in attaining, maintaining or developing occupations: daily living skills, play, leisure and/or work skills. A healthcare provider Cardiopulmonary Resuscitation (CPR) certificate is a prerequisite for entry into fourth clinical course; OTA program must be completed within four years. This program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE), c/o Accreditation Department, American Occupational Therapy Association (AOTA), 4720 Montgomery Lane, Suite 200, Bethesda, MD 20814-3449; 301-652-2682; acoteonline.org. Program graduates will be able to write the National Certification Examination for the Occupational Therapy Assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of the exam, you will be a COTA. To practice in Wisconsin, a OTA graduate must apply for licensure.

Career Outlook

Job placement is usually in hospitals, geriatric centers, schools and homes. See information at promoteot.org.

Program Learning Outcomes

- Adhere to the ethical standards, values and attitudes of the occupational therapy profession
- Practice within the distinct role and responsibility of the occupational therapy assistant
- Advocate for the profession and consumers
- Apply occupational therapy principles and intervention tools to achieve expected outcomes
- Serve a diverse population in a variety of systems that are consistent with entry-level practice
- Value lifelong learning and the need to keep current with best practices

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required: High school diploma or GED; one year of high school-level or one semester of college-level algebra, biology and chemistry with a grade of C or better for each course; and course placement assessment of basic skills proficiency.

Start Date: August

For Information

 414-297-6263, matc.edu


TECHNICAL STUDIES

	Credits
(1) OTASST-171 Introduction to Occupational Therapy ‡	3
(1) OTASST-172 Medical and Psychosocial Conditions # ‡	3
(1) OTASST-173 Activity Analysis and Application ‡	2
(2) OTASST-174 OT Performance Skills ‡	4
(2) OTASST-176 OT Theory and Practice ‡	3
(2) OTASST-177 Assistive Technology and Adaptations ‡	2
(2) OTASST-178 Geriatric Practice ‡	3
(3) OTASST-175 Psychosocial Practice ‡	3
(3) OTASST-179 Community Practice ‡	2
(3) OTASST-182 Physical Rehabilitation Practice ‡	3
(3) OTASST-183 Pediatric Practice ‡	3
(3) OTASST-184 OTA Fieldwork ‡	2
(4) OTASST-185 OT Practice and Management # ‡	2
(4) OTASST-186 OTA Fieldwork 2A* ‡	5
(4) OTASST-187 OTA Fieldwork 2B* ‡	5

GENERAL STUDIES

ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177 General Anatomy and Physiology ‡	4
(or) NATSCI-201 and NATSCI-202	
PSYCH-159 Abnormal Psychology	3
(or) PSYCH-232 Abnormal Psychology	
PSYCH-188 Developmental Psychology	3
(or) PSYCH-238 Lifespan Psychology	
PSYCH-199 Psychology of Human Relations	3
(or) PSYCH-231 Introductory Psychology	
SOCSCI-172 Introduction to Diversity Studies	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

HEALTH-107 Introduction to Computing for Healthcare	
HEALTH-160 Study Strategies for Health Occupations	
PHYED-210 An Active Approach to Wellness and Fitness	
SOCSCI-210 Death and Dying	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

OTASST-172 and OTASST-185 are online courses.

* OTASST-186 and OTASST-187 must be completed within 18 months following academic coursework.

OTA program must be completed within four years.

Required Natural Science (NATSCI) courses must be completed with a grade of C or better in each course.

Possible Careers: Certified Occupational Therapy Assistant, Occupational Therapy Assistant

Optician – Vision Care

TECHNICAL DIPLOMA

Program Code: 31-516-3

Downtown Milwaukee Campus

Learn how to construct eyewear, take accurate measurements, fit and adjust glasses and assist patients in the selection of frames and lens materials. In addition, the program prepares you to perform preliminary eye examinations and educate patients about contact lens selection, use and care. In the second semester, students put their skills into practice working in the on-campus optical dispensary. Graduates can sit for the American Board of Opticianry competency examination and/or National Contact Lens Examination.

Career Outlook

Employment opportunities are expected to increase due to growth in public awareness of the importance of good eyesight, the availability of vision screening programs, and the aging population. For additional career information, visit bls.gov/ooh/healthcare/opticians-dispensing.htm.

Program Learning Outcomes

Employers will expect program graduates to:

- Lay out, grind, fine and polish ophthalmic lenses
- Machine and hand-edge lenses
- Tint lenses
- Insert lenses into a variety of frames
- Verify finished eyewear for accuracy
- Adjust, fit and repair ophthalmic frames
- Display knowledge of contact lens theory, design and use
- Perform preliminary examinations
- Demonstrate an understanding of optical business procedures
- Demonstrate knowledge of legal and ethical standards

Admission Requirements

This program admits students through a petition selection process. Please see this program's web page at matc.edu to view the petition process.

Related Program

Dental Technician

Start Date: August

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

Credits

OPTSCI-110	Optical Theory and Principles ‡	2
OPTSCI-111	Orientation to Ophthalmic Dispensing ‡	3
OPTSCI-112	Ocular Anatomy and Physiology ‡	2
OPTSCI-113	Lab Procedures – Surfacing (8 weeks)	2
OPTSCI-114	Lab Procedures – Finishing ‡ (8 weeks)	3
PSYCH-199	Psychology of Human Relations	3
OPTSCI-115	Introduction to Contacts ‡	3
OPTSCI-116	Optical Business Management ‡	3
OPTSCI-117	Optical Clinic – Advanced Lab and Dispensary Techniques ‡	4
OPTSCI-119	ABO Certification Review ‡	2

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Pharmacy Technician

TECHNICAL DIPLOMA

Program Code: 31-536-1

Downtown Milwaukee Campus

This two-semester program provides the skills and knowledge needed to be a pharmacy technician in a variety of practice settings. Pharmacy technicians work under the supervision of a pharmacist in the delivery of pharmaceutical care.

Attributes that will contribute to your success as a pharmacy technician include a neat and well-groomed appearance, attention to detail, dependability as related to punctuality and attendance, and good interpersonal communication skills.

During the clinical courses, you will acquire experience in both community and institutional pharmacies. Graduates are prepared to take the PTCB Certification Exam. This program may be taken on a part-time basis. All graduates must be 18 years of age or older.

This program is accredited by the Pharmacy Technician Accreditation Commission (PTAC).

Career Outlook

Due to the evolving role of the pharmacy technician and the aging population, there is a need for trained pharmacy technicians.

Program Learning Outcomes

- Demonstrate personal/interpersonal knowledge and skills
- Demonstrate foundational professional knowledge and skills
- Process and handle medications and medication orders
- Perform sterile and non-sterile compounding
- Follow established policies and procedures for procurement, billing, reimbursement and inventory management
- Apply patient and medication safety practices
- Use technology and informatics
- Adhere to state and federal regulations governing the practice of pharmacy
- Apply quality assurance practices

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. A working knowledge of mathematics, including elementary algebra, is strongly recommended.

Start Dates: August/January

For Information

414-297-6263, matc.edu

SIXTEEN-WEEK TERMS

	Credits
ENG-151 Communication Skills 1 ‡ (or) ENG-201 English 1 ‡	3
HEALTH-101 Medical Terminology	3
HEALTH-107 Introduction to Computing for Healthcare	2
PHARMT-300 Orientation to Pharmacy Operations ‡	1
PHARMT-302 Pharmaceutical Calculations ‡	2
PHARMT-303 Introduction to Drug Classification ‡	2
PHARMT-395 Federal Laws, Ethics and Customer Service ‡	1
HEALTH-104 Healthcare Customer Service	2
PHARMT-307 Community Pharmacy Lab ‡	1
PHARMT-306 Pharmacy Clinical Experience 1 ‡	2
PHARMT-310 Institutional Pharmacy Practice ‡	1
PHARMT-311 Orientation to Sterile Solutions ‡	2
PHARMT-312 Pharmacy Operations Laboratory ‡	3
PHARMT-314 Pharmacy Clinical Experience 2 ‡	2
PSYCH-199 Psychology of Human Relations (or) PSYCH-231 Introductory Psychology	3

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Phlebotomy

TECHNICAL DIPLOMA

Program Code: 30-513-1

Downtown Milwaukee Campus

Phlebotomists perform functions such as blood drawing, specimen processing, lab procedures and clerical duties. This one-semester program emphasizes theory and skills, and students acquire experience at a medical facility. Graduates are eligible to write national certifying examinations. Demand for phlebotomists is growing; opportunities include medical laboratory technology and laboratory assistant. For career information, visit ascp.org. Program is approved by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 North River Road, Suite 720, Rosemont, IL 60018; 312-714-8880.

Program Learning Outcomes

- Collect, transport, handle and process blood specimens for analysis
- Recognize the importance of specimen collection in the overall patient care system
- Relate the anatomy and physiology of body systems and anatomic terminology to the major areas of the clinical laboratory, and to general pathologic conditions associated with body systems
- Identify and select equipment, supplies and additives used in blood collection
- Recognize factors that affect specimen collection procedures and test results, and take appropriate actions within predetermined limits, when applicable
- Recognize and adhere to infection control and safety policies and procedures; monitor quality control within predetermined limits
- Recognize the various components of the healthcare delivery system; recognize the responsibilities of other laboratory and healthcare personnel and interact with them with respect for their jobs and patient care
- Demonstrate professional conduct, stress management, interpersonal and communication skills with patients, peers and other healthcare personnel
- Demonstrate an understanding of requisitioning and the legal implications of the work environment
- Apply basic principles in learning new techniques
- Recognize and act upon individual needs for continuing education as a function of growth and maintenance of professional competence
- Upon graduation and initial employment, the phlebotomist will be able to demonstrate entry-level competencies in the above areas of professional practice. Refer to the NAACLS Phlebotomist Competencies.

Start Dates: August/January

For Information

414-297-6263, matc.edu



Career Pathway

After earning this diploma, the credits can be applied toward completing the Healthcare Services Management associate degree.

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu.

Related Programs

Health Unit Coordinator, Medical Assistant, Medical Laboratory Technician, Pharmacy Technician

SIXTEEN-WEEK TERMS

	Credits
CLABT-110 Basic Lab Skills ‡.....	1
CLABT-111 Phlebotomy ‡.....	2
ENG-151 Communication Skills 1*‡.....	3
HEALTH-101 Medical Terminology*.....	3
HEALTH-107 Introduction to Computing for Healthcare*.....	2
MLABT-161 Computer Applications for the Medical Laboratory ‡.....	1
MLABT-166 Phlebotomy Clinical Experiences ‡.....	3
PSYCH-199 Psychology of Human Relations*.....	3

TOTAL CREDITS: 18

‡ Prerequisite required.

Program curriculum requirements are subject to change.

* May be taken prior to entering the program.

CLABT-110, CLABT-111 and MLABT-161 are co-requisites. Students need to have the knowledge base of CLABT-110 and CLABT-111 to take MLABT-161.

Possible Careers: Laboratory Assistant, Medical Laboratory Technology, Phlebotomist

Physical Therapist Assistant

ASSOCIATE DEGREE

Program Code: 10-524-1

Downtown Milwaukee Campus

Prepare for positions as a physical therapist assistant in a hospital, nursing home, rehabilitation center, school, private clinic or other healthcare setting through this Associate in Applied Science degree program. Under the supervision of a physical therapist, duties include implementing treatment programs, teaching patients to perform exercises and daily living activities, conducting treatments using special equipment, and reporting the patient's progress to the physical therapist. The program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax Street, Alexandria, VA 22314; 703-706-3245; accreditation@apta.org; capteonline.org.

Career Outlook

The need for physical therapist assistants is projected to grow due to increases in the geriatric population. Wisconsin requires licensure before the physical therapist assistant may practice in this state.

Program Learning Outcomes

- Exhibit behaviors and conduct that reflect respect and sensitivity according to physical therapy practice standards
- Demonstrate critical thinking skills to implement and adjust a plan of care under the direction and supervision of a physical therapist
- Produce documentation to support the delivery of physical therapy services
- Function under the supervision of a physical therapist in a safe, legal, ethical manner
- Demonstrate effective communication with patients, families and the healthcare team
- Perform technically competent physical therapy interventions under the direction and supervision of a physical therapist
- Educate patients, families and other health providers
- Integrate components of administrative, operational and fiscal practices of physical therapy service in a variety of settings
- Implement a self-directed plan for career development, credentialing and lifelong learning

Related Programs

Occupational Therapy Assistant, Registered Nursing

Start Date: January

For Information

414-297-6263, matc.edu



Possible Careers: Physical Therapist Assistant, Rehabilitation Manager

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required: High school diploma or GED; one year of high school-level algebra, biology, chemistry or physics; and course placement assessment of basic skills proficiency.

TECHNICAL STUDIES

	Credits
(1) PTASST-138 PTA Kinesiology 1 ‡	3
(1) PTASST-139 PTA Patient Interventions ‡	4
(1) PTASST-140 PTA Professional Issues 1 ‡	2
(2) PTASST-141 PTA Kinesiology 2 ‡	4
(2) PTASST-142 PTA Therapeutic Exercise ‡	3
(2) PTASST-143 PTA Therapeutic Modalities ‡	4
(2) PTASST-145 PTA Principles of Musculoskeletal Rehabilitation ‡	4
(3) PTASST-144 PTA Principles of Neuromuscular Rehabilitation ‡	4
(3) PTASST-146 PTA Management of Cardiopulmonary and Integumentary Conditions ‡	3
(3) PTASST-147 PTA Clinical Practice 1 ‡	2
(3) PTASST-148 PTA Clinical Practice 2 ‡	3
(4) PTASST-149 PTA Rehabilitation Across the Lifespan ‡	2
(4) PTASST-150 Professional Issues 2 ‡	2
(4) PTASST-151 PTA Clinical Practice 3 ‡	5

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-177	General Anatomy and Physiology ‡	4
	(or) NATSCI-201 and NATSCI-202	
PSYCH-159	Abnormal Psychology	3
	(or) Any 200-series PSYCH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-172	Introduction to Diversity Studies	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

PHYED-210	An Active Approach to Wellness and Fitness
HEALTH-101	Medical Terminology
PSYCH-240	Health Psychology ‡
OFTECH-103	Keyboard and Keypad

TOTAL CREDITS: 70

‡ Prerequisite required. () = Semester order for full-time students. Program curriculum requirements are subject to change.

Required Natural Science (NATSCI) courses must be completed with grade of B- or better in each course.

Practical Nursing LPN-RN Educational Progression

ASSOCIATE DEGREE

Program Code: 10-543-10

Downtown Milwaukee and Mequon campuses

This Associate in Applied Science degree program is designed for the LPN (licensed practical nurse) whose goal is a RN (registered nurse) license. Accredited by the Accreditation Commission for Education in Nursing, this program grants currently licensed LPNs up to 19 advanced standing nursing credits upon satisfactory completion of a challenge exam. One year of clinical nursing courses follows successful completion of the challenge exam and an introductory nursing process course. Fifteen general education credits and two elective credits complete the requirements for the degree. After successfully completing this program, you will be eligible to take the RN Licensure Exam (NCLEX-RN).

Career Outlook

Licensed practical nurses who become registered nurses increase their employment options with higher salaries.

Program Learning Outcomes

Employers will expect program graduates to:

- Adhere to professional standards of practice for RNs
- Use effective communication skills
- Assess the health of individuals, families and groups within the context of community
- Make clinical decisions to assure effective nursing care
- Provide safe, caring interventions with diverse populations
- Collaborate with other health professionals
- Manage care to facilitate continuity within and across healthcare settings
- Use teaching and learning processes to promote and restore health throughout the lifespan

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Related Program

Registered Nursing

Start Dates: August/January

For Information

414-297-6263, matc.edu



TECHNICAL STUDIES

Credits

NRSAD-191	Nursing: Clinical Skill Development ‡	1
NRSAD-109	Nursing: Complex Health Alterations 1 ‡	3
NRSAD-110	Nursing: Mental Health Community Concepts ‡	2
NRSAD-111	Nursing: Intermediate Clinical Practice ‡	3
NRSAD-112	Nursing: Advanced Skills ‡	1
NRSAD-113	Nursing: Complex Health Alterations 2 ‡	3
NRSAD-114	Nursing: Management Concepts ‡	2
NRSAD-115	Nursing: Advanced Clinical Practice ‡	3
NRSAD-116	Nursing: Clinical Transition ‡	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177	General Anatomy and Physiology ‡	4
(&) NATSCI-179	Advanced Anatomy and Physiology ‡	4
	(or) NATSCI-201 and NATSCI-202	
NATSCI-186	Introductory Biochemistry ‡	4
	(or) NATSCI-207 and NATSCI-208	
NATSCI-197	Microbiology ‡	4
PSYCH-188	Developmental Psychology ‡	3
	(or) PSYCH-238 Lifespan Psychology	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

FLANG-105	Spanish for Nursing
NATSCI-237	Introduction to Biotechnology ‡
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 53

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Required Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.

All Liberal Arts and Sciences and elective courses required for the program must be completed with a grade of C or better.

Possible Careers: Registered Nurse, Head Nurse

Radiography

ASSOCIATE DEGREE

Program Code: 10-526-1

Downtown Milwaukee Campus

Prepare for employment in x-ray departments associated with hospitals, medical clinics and private offices. This Associate in Applied Science degree is a full-time program with course sequencing encompassing four semesters, a six-week summer session and a six-week externship. The curriculum focuses on theoretical aspects of radiography, and applied clinical experiences in radiography departments. Radiation safety is practiced at all times. When you graduate, you become eligible to take the American Registry Examination for Radiologic Technology in Radiography. The program is accredited by the Joint Review Committee on Education in Radiologic Technology.

Career Outlook

Typical emphases in the field include diagnostic radiology, bedside and trauma procedures, and pediatric radiography. For additional career information, visit asrt.org

Program Learning Outcomes

Employers will expect program graduates to:

- Carry out the production and evaluation of radiographic images
- Practice radiation safety principles
- Adhere to quality management processes in radiography
- Provide quality patient care
- Apply computer skills in the radiographic clinical setting
- Apply critical thinking and problem-solving skills in the practice of diagnostic radiography

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu.

Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Related Programs

Respiratory Therapist, Surgical Technology

Start Date: August

For Information

414-297-6263, matc.edu

TECHNICAL STUDIES

Credits

(1) RADT-149	Radiographic Anatomy and Procedures 1 ‡	5
(1) RADT-158	Introduction to Radiography ‡	3
(1) RADT-159	Radiographic Imaging 1 ‡	3
(1) RADT-168	Radiography Clinical Practice 1 ‡	2
(2) RADT-170	Radiographic Imaging 2 ‡	3
(2) RADT-191	Radiographic Anatomy and Procedures 2 ‡	5
(2) RADT-192	Radiography Clinical Practice 2 ‡	3
(5) RADT-193	Radiography Clinical Practice 3 ‡	3
(3) RADT-194	Imaging Equipment Operation ‡	3
(3) RADT-196	Modalities ‡	3
(3) RADT-199	Radiography Clinical Practice 4 ‡	3
(4) RADT-195	Radiographic Quality Analysis ‡	2
(4) RADT-189	Radiographic Pathology ‡	1
(4) RADT-190	Radiography Clinical Practice 5 ‡	2
(4) RADT-197	Radiation Protection and Biology ‡	3
(5) RADT-198	Radiography Clinical Practice 6 ‡	2
(5) RADT-174	ARRT Certification Seminar ‡	2

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-177	General Anatomy and Physiology ‡	4
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students. S = Summer.

Mathematics (MATH) and Natural Science (NATSCI) courses must be completed with a grade of B- or better.



Possible Careers: Radiographer, Radiologic Technologist

Registered Nursing

ASSOCIATE DEGREE
Program Code: 10-543-1

Downtown Milwaukee and Mequon campuses

1+1 Practical Nursing Program

(Official WTCS title: Nursing Associate Degree)

This 1+1 Nursing program allows a student to complete the technical diploma in Practical Nursing in the first year, and the associate degree in Nursing in the second year. Accredited by the Accreditation Commission for Education in Nursing (ACEN), this Associate in Applied Science degree program prepares students for employment in a variety of healthcare settings. College laboratory experiences provide opportunities to practice technical skills. Clinical experiences allow participation in supervised patient care activities in a variety of local healthcare settings. Degree graduates are eligible to take the RN licensure exam (NCLEX-RN).



Career Pathway

Students who complete the first-year courses are eligible to take the Practical Nursing licensure exam (NCLEX-PN).

Career Outlook

Degree graduates can apply for positions at the staff nurse level. Additional education enhances potential for advancement to coordinator/head nurse positions.

Program Learning Outcomes

- Adhere to professional standards of practice for RNs and PNs
- Use effective communication skills
- Assess the health of individuals, families and groups within the context of community
- Make clinical decisions to assure effective nursing care
- Provide safe, caring interventions with diverse populations
- Collaborate with other health professionals
- Manage care to facilitate continuity within and across healthcare settings
- Use teaching and learning processes to promote and restore health throughout the lifespan

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu.

Nursing Assistant training required.

Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Start Dates: August/January

For Information

414-297-6263, matc.edu


Possible Careers: Practical Nurse, Registered Nurse

TECHNICAL STUDIES

Credits

(1) NRSAD-101	Nursing: Fundamentals ‡	2
(1) NRSAD-102	Nursing: Skills ‡	3
(1) NRSAD-103	Nursing: Pharmacology ‡	2
(1) NRSAD-104	Nursing: Introduction to Nursing Practice ‡	2
(2) NRSAD-105	Nursing: Health Alterations ‡	3
(2) NRSAD-106	Nursing: Health Promotion ‡	3
(2) NRSAD-107	Nursing: Clinical Care Across the Lifespan ‡	2
(2) NRSAD-108	Nursing: Introduction to Clinical Management ‡	2
(3) NRSAD-109	Nursing: Complex Health Alterations 1 ‡	3
(3) NRSAD-110	Nursing: Mental Health Community Concepts ‡	2
(3) NRSAD-111	Nursing: Intermediate Clinical Practice ‡	3
(3) NRSAD-112	Nursing: Advanced Skills ‡	1
(4) NRSAD-113	Nursing: Complex Health Alterations 2 ‡	3
(4) NRSAD-114	Nursing: Management Concepts ‡	2
(4) NRSAD-115	Nursing: Advanced Clinical Practice ‡	3
(4) NRSAD-116	Nursing: Clinical Transition ‡	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communications Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177	General Anatomy and Physiology ‡	4
(&) NATSCI-179	Advanced Anatomy and Physiology ‡	4
	(or) NATSCI-201 and NATSCI-202	
NATSCI-186	Introductory Biochemistry ‡	4
	(or) NATSCI-207 and NATSCI-208	
NATSCI-197	Microbiology ‡	4
PSYCH-188	Developmental Psychology ‡	3
	(or) PSYCH-238 Lifespan Psychology	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: ONE CREDIT NEEDED

FLANG-105	Spanish for Nursing
NATSCI-237	Introduction to Biotechnology ‡
PHYED-210	An Active Approach to Wellness and Fitness (CPR)

TOTAL CREDITS: 70

‡ Prerequisite required. () = Semester order for full-time students.

Program curriculum requirements are subject to change.

Required Natural Science (NATSCI) courses must be completed with a grade of B- or better in each course.
All Liberal Arts and Sciences and elective courses required for the program must be completed with a grade of C or better.

Renal Dialysis Technician

TECHNICAL DIPLOMA **Program Code: 31-517-1** Downtown Milwaukee Campus

This two-semester program will prepare you for employment as a renal dialysis technician (RDT). Under the direct supervision of a registered nurse, RDTs are responsible for setting up equipment, preparing dialysate solutions, performing venipuncture, and monitoring patient responses during the procedure. In addition, RDTs are responsible for quality control and maintenance of dialysis equipment. Be aware that this program and occupational field have potential for exposure to blood; job-related duties require manual dexterity, and physical strength and endurance to perform a variety of lifting and transferring tasks related to patient care treatments.

Career Outlook

In the health field, RDTs are in demand and find employment in hospitals and in freestanding dialysis centers. For career information, visit kidney.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Initiate, monitor and complete dialysis procedures
- Monitor vital signs, prepare and administer medications, and maintain reports and records
- Maintain equipment and supplies
- Provide psychological support to clients with end-stage renal disease who are undergoing dialysis procedures

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu to view the petition process.

Related Programs

Medical Assistant, Medical Laboratory Technician, Phlebotomy

SIXTEEN-WEEK TERMS		Credits
ENG-347	Communications 2* (or) ENG-151 or ENG-201	1
HEALTH-101	Medical Terminology*	3
PSYCH-199	Psychology of Human Relations* (or) PSYCH-231 Introductory Psychology	3
RDIAT-320	Introduction to Renal Dialysis ‡	3
RDIAT-321	Principles of Renal Dialysis 1 ‡	4
RDIAT-302	Renal Failure and Support Therapies ‡	3
RDIAT-304	Hemodialysis Laboratory Procedures ‡	1
RDIAT-322	Principles of Renal Dialysis 2 ‡	3
RDIAT-323	Clinical Practicum 1 ‡	2
RDIAT-324	Clinical Practicum 2 ‡	3

TOTAL CREDITS: 26

‡ Prerequisite required.
Program curriculum requirements are subject to change.
* It is strongly recommended that these courses be completed prior to entering the program.

Start Date: August

For Information
414-297-6263, matc.edu



Possible Careers: Dialysis Technician, Patient Care Technician (PCT), Renal Dialysis Technician (RDT), Renal Technician

Respiratory Therapist

ASSOCIATE DEGREE
Program Code: 10-515-1

Downtown Milwaukee Campus

Enhance patient care by evaluating, treating and caring for people with lung and heart disease. Through this Associate in Applied Science degree program, clinical experiences are gained in a variety of healthcare settings. Selected first semester courses may be taken on a part-time basis. Program graduates are qualified to sit for the National Board for Respiratory Care (NBRC) examinations. This program is fully accredited by the Commission on Accreditation for Respiratory Care (COARC) through 2022. Successful completion of the program and the NBRC Certified Respiratory Therapist examination provides an opportunity to obtain a certificate as a Respiratory Care Practitioner granted by the Wisconsin Department of Safety and Professional Services. NBRC examinations leading to qualification as a Registered Respiratory Therapist (RRT) as well as advanced credentials in pulmonary function (CPFT and RPFT) and perinatal/pediatrics are available.

Career Outlook

Respiratory therapists work in acute and subacute hospitals, diagnostic laboratories, rehabilitation facilities, clinics and home care. They administer treatments, recommend therapeutic interventions, operate life support systems, perform CPR and airway management, provide patient education and conduct cardiopulmonary testing. For additional career information, visit aarc.org.

Program Learning Outcomes

Employers will expect program graduates to:

- Apply respiratory therapy concepts to patient care situations
- Demonstrate technical proficiency required to fulfill the role of a respiratory therapist
- Practice respiratory therapy according to established professional and ethical standards

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu. Also required for admission: High school diploma or GED; one year of high school-level biology and chemistry; and course placement assessment of basic skills proficiency.

Related Programs

Anesthesia Technology, Cardiovascular Technology, Radiography, Registered Nursing, Surgical Technology

Start Date: August

For Information

 414-297-6263, matc.edu


TECHNICAL STUDIES

	Credits
(1) HEALTH-101 Medical Terminology.....	3
(1) RESPC-111 Respiratory Survey ‡	3
(1) RESPC-171 Respiratory Therapeutics 1 ‡	3
(2) RESPC-172 Respiratory Therapeutics 2 ‡	3
(2) RESPC-112 Respiratory Airway Management ‡	2
(2) RESPC-173 Respiratory Pharmacology ‡	3
(2) RESPC-174 Respiratory Cardiac Physiology ‡	3
(5) RESPC-175 Respiratory Clinical 1 ‡	2
(3) RESPC-176 Respiratory Disease ‡	3
(3) RESPC-113 Respiratory Life Support ‡	3
(3) RESPC-178 Respiratory Clinical 2 ‡	3
(3) RESPC-179 Respiratory Clinical 3 ‡	3
(3) RESPC-180 Respiratory Neonatal and Pediatric Care ‡	2
(4) RESPC-181 Respiratory and Cardio Diagnostics ‡	3
(4) RESPC-182 Respiratory Clinical 4 ‡	3
(4) RESPC-183 Respiratory Clinical 5 ‡	3

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177 General Anatomy and Physiology ‡	4
(or) NATSCI-201 and NATSCI-202	
NATSCI-197 Microbiology ‡	4
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

HRMGT-169 Diversity and Change Management	
FLANG-105 Spanish for Nursing	
OFTECH-103 Keyboard and Keypad	
RESPC-145 Respiratory Care Registry Review ‡	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students. S = Summer.

All Natural Science (NATSCI) courses must be completed with a grade of C or better.
Possible Careers: Certified Respiratory Therapist (CRT), Registered Respiratory Therapist (RRT)

Surgical Technology

ASSOCIATE DEGREE

Program Code: 10-512-1

Downtown Milwaukee Campus

Surgical technologists are allied health professionals who are part of a medical practitioners team providing surgical care to patients. Surgical technologists work under medical supervision to facilitate the safe and effective completion of invasive surgical procedures. They work to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety. Surgical technologists possess expertise in the theory and application of sterile and aseptic technique, and combine the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures. Upon completion of this Associate in Applied Science degree program, you are eligible to write the certification examination given by the National Board of Surgical Technology and Surgical Assisting to become a Certified Surgical Technologist.

Career Outlook

Entry-level positions are available in operating rooms and ambulatory surgery facilities. For career information, see arcsts.org.

Program Learning Outcomes

- Apply health sciences principles to the peri-operative environment
- Apply principles of disinfection and sterilization to the surgical environment, equipment and instrumentation
- Maintain principles of sterile technique in the surgical environment
- Prepare operating room by gathering equipment and supplies
- Pass instruments, equipment and supplies in a safe and efficient manner
- Provide a safe, efficient and supportive environment for the peri-operative patient
- Anticipate the sequence of events in surgical procedures
- Demonstrate safe practice with medications, solutions
- Function as an ethical, legal and professional member of the healthcare team within a surgical technologist's scope of practice
- Demonstrate proficiency on the comprehensive surgical technologist exam as specified by NBSTSA

Start Dates: August/January

For Information

414-297-6263, matc.edu

Admission Requirements

This program admits students through a petition selection process; see this program's web page at matc.edu.

Also required for admission: High school diploma or GED; one year of high school-level algebra, biology and chemistry (or equivalent college courses); and course placement assessment of basic skills proficiency.

TECHNICAL STUDIES

	Credits
(1) HEALTH-101 Medical Terminology.....	3
(2) SURGT-129 Surgical Pharmacology ‡.....	2
(2) SURGT-125 Introduction to Surgical Technology ‡.....	4
(2) SURGT-126 Surgical Tech Fundamentals 1 ‡.....	4
(2) SURGT-127 Exploring Surgical Issues ‡.....	2
(3) SURGT-128 Surgical Tech Fundamentals 2 ‡.....	4
(3) SURGT-130 Surgical Skills Application ‡.....	2
(3) SURGT-137 Surgical Tech Clinical Practice 1 ‡.....	4
(3) SURGT-140 Surgical Interventions 1A ‡.....	2
(4) SURGT-138 Surgical Tech Clinical Practice 2 ‡.....	4
(4) SURGT-139 Surgical Tech Clinical Practice 3 ‡.....	4
(4) SURGT-141 Surgical Interventions 1B ‡.....	2
(4) SURGT-142 Surgical Interventions II ‡.....	4

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡.....	3
(&) ENG-152 Communication Skills 2 ‡.....	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-177 General Anatomy and Physiology ‡.....	4
(&) NATSCI-179 Advanced Anatomy and Physiology ‡.....	4
(or) NATSCI-201 and NATSCI-202	
NATSCI-197 Microbiology ‡.....	4
PSYCH-199 Psychology of Human Relations.....	3
(or) Any 200-series PSYCH course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

HEALTH-107 Introduction to Computing for Healthcare	
NATSCI-241 Pathophysiology: Disease Process ‡	
RADT-165 Applied Cross-Sectional Anatomy ‡	

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Required Natural Science (NATSCI) courses must be completed with a grade of C+ or better.

Possible Careers: Surgical Assistant, Certified Surgical Technologist, Surgical Technician, Surgical Technologist

Dietary Manager

CERTIFICATE

West Allis Campus

Students enrolled in the Dietetic Technician associate degree program will complete all of these required courses as part of their program. Students who are interested only in becoming eligible to sit for the Association of Food and Nutrition Professionals Certified Dietary Manager examination may enroll in just these required classes and earn the Dietary Manager Certificate from MATC.

Career Pathway

Credits earned in this certificate can be applied toward completing the Dietetic Technician associate degree.

Start Dates: August/January

For Information

414-297-6263, matc.edu



COURSES

	Credits
DIETNT-151 Nutrition for Dietetics.....	4
CULMGT-112 Food Service Sanitation (or) DIETNT-106 Food Service Sanitation	2
DIETNT-108 Food Service Management 1 ‡	3
DIETNT-118 Food Service Management 1: Coordinated Practice ‡	1

TOTAL CREDITS: 10

‡ Prerequisite required.

Program curriculum requirements are subject to change.

All credits in this certificate must be earned at MATC with a 2.0 GPA or higher.

Healthcare Customer Service

CERTIFICATE

Downtown Milwaukee Campus; also offered entirely online

This certificate includes instruction in medical terminology, healthcare computing and the customer service skills related to working in a healthcare setting. Students earning this certificate will be prepared for entry-level customer service positions in the healthcare industry.

Career Pathway

Credits earned in this certificate can be applied toward completing the Health Unit Coordinator technical diploma and the Healthcare Services Management associate degree programs.

Start Dates: August/January

For Information

414-297-6263, matc.edu



COURSES

	Credits
HEALTH-101 Medical Terminology	3
HEALTH-104 Healthcare Customer Service	2
HEALTH-107 Introduction to Healthcare Computing	2

TOTAL CREDITS: 7

Program curriculum requirements are subject to change.

All credits in this certificate must be earned at MATC with a 2.0 GPA or higher.

Many classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Enter a high-demand career program or complete the first two years of a bachelor's degree through MATC's School of Liberal Arts and Sciences.

Call 414-297-6584 for information about programs in the School of Liberal Arts and Sciences.

You can earn the first two years of a bachelor's degree at MATC.

Through our articulation agreements with four-year colleges and universities, the Associate in Arts and Associate in Science degree credits (200-level) transfer to four-year institutions, including the University of Wisconsin System,

private colleges/universities in Wisconsin and many four-year schools throughout the country. Students planning to transfer must check with the school they plan to transfer to for detailed credit transfer information. If you are interested in pursuing a bachelor's degree, see MATC's four-year college transfer information at matc.edu.

For all degree programs, students who have not been accepted, or have not decided on a program, may begin with the General Studies courses if course prerequisites have been met.

For class times and locations or to register online, visit INFOOnline at matc.edu.

Associate in Arts

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 125

Associate in Arts Online – Accelerated

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 126

Associate in Arts: Educational Foundations Track

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 127

Associate in Science

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 128

Associate in Science: Biotechnology Track

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 129

Associate in Science: Chemical Technology Track

Liberal Arts and Sciences

Four-Year College Transfer Degree, page 130

Chemical Technician

Associate in Applied Science Degree, page 131

Child Care Services

Technical Diploma, page 132

Early Childhood Education

Associate in Applied Science Degree, page 133

Human Service Associate

Associate in Applied Science Degree, page 134

Individualized Technical Studies

Associate in Applied Science Degree

For details about this individualized degree, see page 63 in the School of Business.

Interpreter Technician

Associate in Applied Science Degree, page 135

CERTIFICATE PROGRAMS, page 136

AODA Substance Abuse Counselor

Biotechnology

Preschool

More programs under development. New programs are planned to debut in the 2015-16 academic year. Check matc.edu for information about the Infant and Toddler Certificate.

Associate in Arts Liberal Arts and Sciences Four-Year College Transfer

ASSOCIATE DEGREE

Program Code: 20-800-1

All campuses

The Associate in Arts (A.A.) degree provides students with the first two years of bachelor's degree credit courses that will transfer to four-year colleges and universities. The courses emphasize the humanities and allow students many options to analyze information, think critically and creatively, respect diversity and collaborate with others. Students who plan to transfer should consult with the four-year college or university regarding specific requirements for a major and the credit transfer details. See the Four-Year College/University Transfer Agreements section of this catalog or matc.edu.

Successful completion of the Associate in Arts degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Accelerated and Online Options

Students may choose to complete this degree online and in an accelerated format; on-campus testing may be required. See the Associate in Arts Online – Accelerated page for information.

Program Learning Outcomes

- Communicate effectively
- Collaborate with others
- Respect diversity
- Demonstrate responsibility
- Think critically and creatively
- Utilize technology
- Apply math and science
- Demonstrate environmental responsibility
- Embrace change

Admission Requirements

- A high school diploma or GED
- ACT score 18, ACT Math score 20
- MATC's assessment test score of at least:
Reading 67, Sentence Skills 76, Elementary Algebra 73

Related Programs

Associate in Arts Online — Accelerated,
Associate in Arts — Educational Foundations Track

Start Dates: August/January

For Information

414-297-6584, matc.edu


CURRICULUM

Credits

ENGLISH – 6 CREDITS REQUIRED..... 6
ENG-201 English 1 ‡

ENG-202 English 2 ‡

SPEECH – 3 CREDITS REQUIRED 3
SPEECH-201 Elements of Speech

(or) **SPEECH-203** Interpersonal Communication

(or) **SPEECH-206** Intercultural Communication

HUMANITIES – 15 CREDITS REQUIRED 15

Select credits from 200-series courses in the humanities (such as English, music, speech, art, foreign language).

Examples: **SPEECH-212**, **FLANG-214**.

Three credits must be in 200-level diversity/ethnic studies courses.

Three credits must be in 200-level fine arts courses.

Examples: **MUSIC-205**, **ART-201**.

SOCIAL SCIENCES – 15 CREDITS REQUIRED..... 15

The 15 credits must be taken from at least three of these five areas:

1. **ECON-201** Principles of Microeconomics
(or) **ECON-202** Principles of Macroeconomics
2. **SOCSCI-203** Introduction to Sociology
3. **PSYCH-231** Introductory Psychology
4. **SOCSCI-221** American National Government and Politics Today
(or) **SOCSCI-222** American State and Local Government
5. **HISTORY** Any 200-level HIST course

WORLD/FOREIGN LANGUAGE – 4 CREDITS REQUIRED 4

This requirement may be waived if student has successfully completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school.

MATHEMATICS – 4 CREDITS REQUIRED 4

Select any 200-level MATH courses, except MATH-260.

NATURAL SCIENCES – 7 CREDITS REQUIRED 7

Select any 200-level NATSCI courses.

Four credits must be in a laboratory science.

PHYSICAL EDUCATION – 3 CREDITS REQUIRED 3

Select any 200-level PHYED course.

ADDITIONAL ELECTIVES – 7 CREDITS REQUIRED 7

Choose primarily from 200-level courses. A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Note: It is important to consult the four-year institution regarding transferability of your selected courses.

THIS PROGRAM WILL TRANSFER TO FOUR-YEAR INSTITUTIONS. See four-year transfer information at matc.edu

Associate in Arts (A.A.) Degree Online – Accelerated

ASSOCIATE DEGREE

Program Code: 20-800-1.AA

Offered entirely online

This Liberal Arts and Sciences Four-Year College Transfer accelerated degree program provides students with the first two years of bachelor's degree credit courses that will transfer to four-year colleges and universities. You can complete this degree entirely online and in one year of full-time study through five sessions. On-campus testing may be required. A session lasts seven or eight weeks. The degree also can be completed in more time, per your schedule.

Successful completion of this degree requires a grade-point average of 2.0 or higher. Students who plan to transfer are advised to consult with the four-year college/university regarding specific requirements for a major.

The Associate in Arts degree is also offered in a non-accelerated on-campus format.

Program Learning Outcomes

- Communicate effectively
- Collaborate with others
- Respect diversity
- Demonstrate responsibility
- Think critically and creatively
- Utilize technology
- Apply math and science
- Demonstrate environmental responsibility
- Embrace change

Admission Requirements

- A high school diploma or GED
- ACT English, Math and Reading scores of 20; or MATC's assessment test scores of at least: Reading 72; Sentence Skills 80; Elementary Algebra 73
- Online skills assessment, orientation and interview

Related Programs

Associate in Arts (A.A.) Liberal Arts and Sciences Four-Year College Transfer, Associate in Arts – Educational Foundations Track, Associate in Science (A.S.) Liberal Arts and Sciences Four-Year College Transfer

Start Dates: August/January

For Information

414-297-6584, matc.edu



CURRICULUM

Credits

QUIN 1: FALL TERM, FIRST SESSION

ENG-201	English 1 ‡	3
PHYED-210	An Active Approach to Wellness and Fitness	3
ECON-201	Principles of Microeconomics	3
HIST-211	America Through 1877	3

QUIN 2: FALL TERM, SECOND SESSION

SOCSCI-203	Introduction to Sociology	3
SPEECH-201	Elements of Speech	3
ECON-202	Principles of Macroeconomics	3
PSYCH-231	Introduction to Psychology	3

QUIN 3: SPRING TERM, THIRD SESSION

ENG-202	English 2 ‡	3
MATH-200	Intermediate Algebra ‡	4
FLANG-202	Spanish 1	4
HIST-212	America Since 1877	3

QUIN 4: SPRING TERM, FOURTH SESSION

SOCSCI-221	American National Government and Politics Today	3
ART-201	Understanding Art	3
NATSCI-232	Earth Science	3
NATSCI-234	Earth Science Laboratory	1
SOCSCI-217	Valuing Diversity	3

SUMMER TERM: FIFTH SESSION

Choose any 200-level Natural Sciences (NATSCI) course	3

ADDITIONAL ELECTIVES – 9 CREDITS REQUIRED

Choose from School of Liberal Arts and Sciences 200-level courses; consult with your program advisor regarding course selections. A maximum of six credits from 100-level courses may apply.

TOTAL CREDITS: 63

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Note: It is important to consult the four-year college or university you plan to attend regarding transferability of your selected courses.

THIS PROGRAM WILL TRANSFER TO FOUR-YEAR INSTITUTIONS. See four-year transfer information at matc.edu

Associate in Arts: Educational Foundations Track Four-Year College Transfer

ASSOCIATE DEGREE

Program Code: 20-800-1.CU

All campuses

To prepare for a teaching career, this Associate in Arts degree program is designed for students interested in entering K-12 teacher licensing programs at four-year colleges and universities. This track enables students to fulfill the first two years of requirements for a bachelor's degree at MATC. The curriculum includes courses focused on the foundations of urban education.

Career Outlook

Employment of kindergarten, elementary, middle and secondary school teachers throughout the United States is expected to grow, especially in areas where enrollments and/or teacher retirements are increasing.

Steps to Success

- Complete the MATC admissions process
- Full admission requires completion of the following courses with a grade of C or higher: EDF-249, ENG-201 and MATGEN-110 (or sufficient math placement score) and a program GPA of 2.5 or higher
- After you've been admitted to the program, meet with your advisor at least once every semester to select courses
- Earn your associate degree through the Educational Foundations track at MATC, including four teacher preparation courses
- Complete the reading, mathematics and writing areas of the Pre-Professional Skills Test (PPST)
- Complete your associate degree with a GPA of 2.5 or higher
- Apply to the School of Education at one of the partnering four-year colleges, where you will continue your studies to receive your bachelor's degree in education
- After you receive your bachelor's degree, you will be eligible to apply for a Wisconsin teaching license

Related Programs

Associate in Arts, Associate in Science,
Early Childhood Education

Start Dates: August/January

For Information

414-297-6584, matc.edu

LEARNING GOALS AND CURRICULUM REQUIREMENTS

The 64-credit curriculum includes four courses focused on the historical, cultural, sociological and philosophical foundations of urban education:

- **EDF-249:** Orientation to Urban Teaching (2 credits)
- **EDF-253:** Issues in Urban Teaching (3 credits)
- **EDF-254:** Field Experience in Urban K-12 Classrooms (2 credits)
- **EDF-255:** Introduction to Teaching (3 credits)

Students complete observational and participatory experiences with Milwaukee Public Schools.

Students attain the remaining credits through General Education requirements for admission to four-year college partners.

Some of the colleges and universities to which MATC students can transfer to pursue careers in teaching include:

- Alverno College
- Cardinal Stritch University
- Carroll University
- Lakeland College
- Marquette University
- Mount Mary University
- UW-Milwaukee
- UW-Oshkosh
- UW-Whitewater

See a MATC advisor for more information.

Paraprofessional Track (K-12 Classroom)

MATC students have the opportunity to enter the school paraprofessional field through the Paraprofessional Track (K-12 Classroom) of the Individualized Technical Studies Associate in Applied Science degree program. Classroom paraprofessionals provide instructional and clerical support for classroom teachers, allowing teachers more time for lesson planning and teaching. They assist children in learning class material, providing students with individualized attention. They also supervise students in the cafeteria, schoolyard or on field trips. Many work extensively with special education students. They also provide personal attention to students with other special needs, such as those who speak English as a second language. This degree requires the completion of a 66-credit curriculum consisting of courses taken in the Early Childhood Education program in addition to a 21-credit core of Liberal Arts and Sciences/General Education courses. Students may also choose to complete a nine-credit emphasis area consisting of courses in World Language (including American Sign Language), Special Needs Education, Office Technology or Music. Contact an MATC advisor for information.

Associate in Science Liberal Arts and Sciences Four-Year College Transfer

ASSOCIATE DEGREE

Program Code: 20-800-2

All campuses

The Associate in Science degree provides students with the first two years of bachelor's degree credit courses that will transfer to four-year colleges and universities. The courses in this degree emphasize the sciences and allow students many options to analyze information, think critically and creatively, respect diversity and collaborate with others.

Students who plan to transfer should consult with the four-year institution regarding specific requirements for a major and the credit transfer details. See the Four-Year College/University Transfer Agreements section of this catalog or matc.edu.

Successful completion of the Associate in Science degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Program Learning Outcomes

- Communicate effectively
- Collaborate with others
- Respect diversity
- Demonstrate responsibility
- Think critically and creatively
- Utilize technology
- Apply math and science
- Demonstrate environmental responsibility
- Embrace change

Admission Requirements

- A high school diploma or GED
- ACT score 18, ACT Math score 20
- MATC's assessment test score of at least: Reading 67, Sentence Skills 76, College Math 43

Related Programs

Associate in Arts Online – Accelerated, Associate in Science – Biotechnology Track, Associate in Science – Chemical Technology Track

Start Dates: August/January

For Information

 414-297-6584, matc.edu


THIS PROGRAM WILL TRANSFER TO FOUR-YEAR INSTITUTIONS.
See four-year transfer information at matc.edu

CURRICULUM

Credits

ENGLISH – 6 CREDITS REQUIRED..... 6

ENG-201 English 1 ‡

ENG-202 English 2 ‡

SPEECH – 3 CREDITS REQUIRED 3

SPEECH-201 Elements of Speech

 (or) **SPEECH-203** Interpersonal Communication

 (or) **SPEECH-206** Intercultural Communication

HUMANITIES – 9 CREDITS REQUIRED..... 9

Select credits from 200-series courses in the humanities (such as English, art, foreign language, music, speech). Examples: **SPEECH-212**, **FLANG-214**.

Three credits must be in 200-level diversity/ethnic studies courses.

Three credits must be in 200-level fine arts courses. Examples: **MUSIC-205**, **ART-201**.

SOCIAL SCIENCES – 9 CREDITS REQUIRED 9

The nine credits must be taken from at least three of these five areas:

1. **ECON-201** Principles of Microeconomics
(or) **ECON-202** Principles of Macroeconomics
2. **SOCSCI-203** Introduction to Sociology
3. **PSYCH-231** Introductory Psychology
4. **SOCSCI-221** American National Government and Politics Today
(or) **SOCSCI-222** American State and Local Government
5. **HISTORY** Any 200-level HIST course

WORLD/FOREIGN LANGUAGE – 4 CREDITS REQUIRED 4

This requirement may be waived if student has successfully completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam. Strongly recommended: Take two semesters of the same language if not already taken in high school.

MATHEMATICS – 5 CREDITS REQUIRED 5

MATH-231 Analytic Geometry and Calculus 1 ‡

NATURAL SCIENCES – 8 CREDITS REQUIRED 8

Select at least one 200-level course with laboratory from each of two areas of NATSCI: chemistry, biology, earth sciences and physics.

MATHEMATICS OR NATURAL SCIENCES EMPHASIS–

12 CREDITS REQUIRED..... 12

Select additional (optional) mathematics credits from the following courses only:

1. **MATH-232** Analytic Geometry and Calculus 2 ‡;
MATH-233 Analytic Geometry and Calculus 3 ‡;
MATH-234 Differential Equations/Linear Algebra ‡
(AND/OR)
2. Any 200-level NATSCI courses

PHYSICAL EDUCATION – 3 CREDITS REQUIRED 3

Select any 200-level PHYED course.

ADDITIONAL ELECTIVES – 5 CREDITS REQUIRED 5

Take five elective credits from 200- or 100-level courses. A maximum of six credits of 100-level courses may be selected as electives. Additional foreign language is not required but is recommended.

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Note: It is important to consult the four-year institution regarding transferability of your selected courses.

Associate in Science: Biotechnology Track Four-Year College Transfer

ASSOCIATE DEGREE

Program Code: 20-800-2.B

Downtown Milwaukee Campus

The Associate in Science degree in Biotechnology explores the history of molecular biology, current applications in biotechnology, and teaches students basic and advanced molecular biology laboratory techniques and practices. In the program, students will learn practical skills to work with nucleic acids (DNA and RNA) and proteins. The state-of-the-art teaching methods with the laboratory experience will prepare students to further their careers and education in biotechnology. Students who plan to transfer should consult with the four-year college/university regarding specific requirements for a major and credit transfer.

Successful completion of this degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Program Learning Outcomes

- Communicate effectively
- Collaborate with others
- Respect diversity
- Demonstrate responsibility
- Think critically and creatively
- Utilize technology
- Apply math and science
- Demonstrate environmental responsibility
- Embrace change

Admission Requirements

- A high school diploma or GED
- ACT score 18, ACT Math score 20
- MATC's assessment test score of at least: Reading 67, Sentence Skills 76, College Math 43

Related Programs

Associate in Science – Chemical Technology Track,
Environmental Health and Water Quality Technology

Start Dates: August/January

For Information

414-297-6584, matc.edu



THIS PROGRAM WILL TRANSFER TO FOUR-YEAR INSTITUTIONS.
See four-year transfer information at matc.edu

CURRICULUM

Credits

ENGLISH – 6 CREDITS REQUIRED..... 6

ENG-201 English 1 ‡

ENG-202 English 2 ‡

SPEECH – 3 CREDITS REQUIRED 3

SPEECH-201 Elements of Speech

(or) **SPEECH-203** Interpersonal Communication

(or) **SPEECH-206** Intercultural Communication

HUMANITIES – 9 CREDITS REQUIRED..... 9

Select nine credits from 200-series courses in the humanities (such as English, music, art, foreign language, speech). Examples: **SPEECH-212, FLANG-214**.

Three credits must be in 200-level diversity/ethnic studies courses.

Three credits must be in 200-level fine arts courses. Examples: **MUSIC-205, ART-201**.

SOCIAL SCIENCES – 9 CREDITS REQUIRED 9

The nine credits must be taken from at least three of these five areas:

1. **ECON-201** Principles of Microeconomics

(or) **ECON-202** Principles of Macroeconomics

2. **SOCSCI-203** Introduction to Sociology

3. **PSYCH-231** Introductory Psychology

4. **SOCSCI-221** American National Government and Politics Today

(or) **SOCSCI-222** American State and Local Government

5. **HISTORY** Any 200-level HIST course

WORLD/FOREIGN LANGUAGE – 4 CREDITS REQUIRED 4

This requirement may be waived if student has successfully completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course.

Students may earn retroactive credit and credit by exam.

Strongly recommended: Take two semesters of the same language if not already taken in high school.

NATURAL SCIENCES – 20 CREDITS REQUIRED 20

NATSCI-236 Principles of Biology ‡

NATSCI-237 Introduction to Biotechnology ‡

NATSCI-238 Molecular Biology ‡

NATSCI-239 Cell Biology ‡

NATSCI-291 Internship in Biochemical Science ‡

(or) **NATSCI-290** Biotechnology Seminar ‡

MATHEMATICS – 5 CREDITS REQUIRED 5

MATH-231 Analytic Geometry and Calculus 1 ‡

PHYSICAL EDUCATION – 3 CREDITS REQUIRED 3

Select any 200-series PHYED course.

ADDITIONAL ELECTIVES – 8 CREDITS REQUIRED 8

NATSCI-186 Biochemistry ‡

NATSCI-197 Microbiology ‡

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Note: It is important to consult the four-year institution regarding transferability of your selected courses.

Associate in Science: Chemical Technology Track Four-Year College Transfer

ASSOCIATE DEGREE

Program Code: 20-800-2.C

Downtown Milwaukee Campus

The Associate in Science degree with Chemical Technology emphasis provides the first two years of bachelor's degree credit courses that will transfer to four-year colleges and universities. MATC's state-of-the-art labs give students an advantage as they prepare for bachelor's degree studies and the workforce. Courses emphasize chemistry and prepare students for both transfer to a four-year chemistry degree program and to begin work in an industrial chemistry lab. Summer research/internship opportunities are available. Students who plan to transfer should consult with the four-year institution regarding specific requirements for a major and credit transfer. See the Four-Year College/University Transfer Agreements section of this catalog or matc.edu.

Successful completion of the Associate in Science degree requires a grade-point average of 2.0 (C) or higher, with 25% of the credits taken at MATC.

Program Learning Outcomes

- Communicate effectively
- Collaborate with others
- Respect diversity
- Demonstrate responsibility
- Think critically and creatively
- Utilize technology
- Apply math and science
- Demonstrate environmental responsibility
- Embrace change

Admission Requirements

- A high school diploma or GED
- ACT score 18, ACT Math score 20
- MATC assessment test score of at least: Reading 67, Sentence Skills 76, College Math 43

Related Programs

Associate in Science – Biotechnology Track,
Chemical Technician

Start Dates: August/January

For Information

414-297-6584, matc.edu


THIS PROGRAM WILL TRANSFER TO FOUR-YEAR INSTITUTIONS.
See four-year transfer information at matc.edu

CURRICULUM

Credits

ENGLISH – 6 CREDITS REQUIRED..... 6

ENG-201 English 1 ‡

ENG-202 English 2 ‡

SPEECH – 3 CREDITS REQUIRED 3

SPEECH-201 Elements of Speech

(or) **SPEECH-203** Interpersonal Communication

(or) **SPEECH-206** Intercultural Communication

HUMANITIES – 9 CREDITS REQUIRED..... 9

Select credits from 200-series courses in the humanities (such as English, art, foreign language, music, speech). Examples: **SPEECH-212**, **FLANG-214**.

Three credits must be in 200-level diversity/ethnic studies courses.

Three credits must be in 200-level fine arts courses. Examples: **MUSIC-205**, **ART-201**.

SOCIAL SCIENCES – 9 CREDITS REQUIRED 9

The nine credits must be taken from at least three of these five areas:

1. **ECON-201** Principles of Microeconomics
(or) **ECON-202** Principles of Macroeconomics
2. **SOCSCI-203** Introduction to Sociology
3. **PSYCH-231** Introductory Psychology
4. **SOCSCI-221** American National Government and Politics Today
(or) **SOCSCI-222** American State and Local Government
5. **HISTORY** Any 200-level HIST course

WORLD/FOREIGN LANGUAGE – 4 CREDITS REQUIRED 4

This requirement may be waived if student has successfully completed four high school semesters of the same foreign language with a grade of C or higher; the four waived credits must be made up by another 200-level course. Students may earn retroactive credit and credit by exam.

Strongly recommended: Take two semesters of the same language if not already taken in high school.

NATURAL SCIENCES – 20 CREDITS REQUIRED 20

NATSCI-211 Chemistry 1 ‡

NATSCI-212 Chemistry 2 ‡

NATSCI-215 Quantitative Analysis ‡

NATSCI-217 Organic Chemistry 1 ‡

NATSCI-219 Organic Chemistry Lab ‡

MATHEMATICS – 5 CREDITS REQUIRED 5

MATH-231 Analytic Geometry and Calculus 1 ‡

PHYSICAL EDUCATION – 3 CREDITS REQUIRED 3

Select any 200-level PHYED course.

ADDITIONAL ELECTIVES – 7 CREDITS REQUIRED 7

CHEMT-103 Introduction to Chemical Technology

CHEMT-107 Industrial Methods of Analysis ‡

CHEMT-109 Chemical Processes ‡

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Note: It is important to consult the four-year institution regarding transferability of your selected courses.

Chemical Technician

ASSOCIATE DEGREE

Program Code: 10-603-1

Downtown Milwaukee Campus

Chemical technicians assure the quality of the products made in the manufacturing, chemical and allied industries. This Associate in Applied Science degree program trains you to perform as an analyst or chemist's assistant in paint, plastics, polymer, solvent, electric power, and manufacturing companies. Most graduates work in labs, in research and development, or in technical assistance.

Career Outlook

Employment prospects for program graduates are exceptional, locally and nationally. Success in this occupation requires the ability to work independently and accurately, with a minimum level of supervision.

Program Learning Outcomes

Employers expect graduates to:

- Apply knowledge of chemical apparatus, equipment and procedures in various production, research and control operations
- Work precisely in solution making, with measuring devices, data handling and instrument operation
- Demonstrate initiative and willingness to learn and grow in responsibility on the job
- Communicate and receive precise chemical data and procedures
- Understand and practice laboratory safety procedures, and understand and use material safety data sheets, etc.
- Use software for instrument operation and data handling

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- One year of high school-level chemistry, and advanced algebra or one semester of College Technical Mathematics 2 (MATH-116)

Related Programs

Associate in Science – Chemical Technology Track,
Environmental Health and Water Quality Technology,
Medical Laboratory Technician

Start Date: August

For Information

414-297-6584, matc.edu



TECHNICAL STUDIES

Credits

(1) CHEMT-101	Chem Laboratory/Process Safety ‡.....	2
(1) CHEMT-103	Introduction to Chemical Technology.....	2
(1) CHEMT-111	General Chemistry 1 ‡ (or) NATSCI-211 Chemistry 1	5
(2) CHEMT-105	Introduction to Instrumental Methods.....	3
(2) CHEMT-112	General Chemistry 2 ‡ (or) NATSCI-212 Chemistry 2	5
(3) CHEMT-107	Industrial Methods of Analysis ‡	2
(3) CHEMT-115	Quantitative Analysis (or) NATSCI-215 Quantitative Analysis	5
(3) CHEMT-117	Organic Chemistry 1 ‡..... (or) NATSCI-217 Organic Chemistry 1	3
(4) CHEMT-109	Chemical Processes ‡.....	3
(4) CHEMT-116	Instrumental Analysis ‡ (or) NATSCI-216 Instrumental Analysis	5
(4) CHEMT-118	Organic Chemistry 2 ‡..... (or) NATSCI-218 Organic Chemistry 2	3
(4) CHEMT-119	Organic Chemistry Laboratory ‡..... (or) NATSCI-219 Organic Chemistry Laboratory	2

GENERAL STUDIES

ECON-195	Economics (or) Any 200-series ECON course	3
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡ (or) ENG-201 and any 200-series ENG or SPEECH course	3
MATH-197	College Algebra and Trigonometry with Applications ‡	5
	(or) MATH-230 College Algebra and Trigonometry	
NATSCI-137	Comprehensive Technical Physics ‡..... (or) NATSCI-274 Calculus-Based Physics 1	4
PSYCH-199	Psychology of Human Relations..... (or) Any 200-series PSYCH course	3
SOCSCI-197	Contemporary American Society..... (or) Any 200-series SOCSCI or HIST course	3

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

CHEMT-120	Chemical Technology Co-Op ‡	
CHEMT-122	Survey of Polymer Science ‡	
CHEMT-125	Principles of Gas Chromatography ‡	
PHYED-210	An Active Approach to Wellness and Fitness	

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Chemical Technician, Chemist's Assistant, Laboratory Assistant

Child Care Services

TECHNICAL DIPLOMA

Program Code: 31-307-1

Downtown Milwaukee and West Allis campuses

Child development, nutrition, creative activities, guidance techniques and practical experience with young children are emphasized. Students are given experience with young children in a child care facility. You may enroll full time or part time; the program is designed for students entering the workforce after earning this diploma and for students continuing their education. **Bilingual courses are available at the West Allis Campus.**

Career Pathway

You can earn the Preschool certificate on your way to completing this program; see the certificates page at the end of the School of Liberal Arts and Sciences section for details. Also, the credits earned in this diploma can be applied toward completing the Early Childhood Education associate degree.

Career Outlook

Trends indicate a steady growth in the child care field. Graduates are prepared for positions as early childhood teachers or assistant teachers in child care centers.

Program Learning Outcomes

Employers expect graduates to:

- Plan daily/weekly schedules of developmentally appropriate activities
- Understand and apply knowledge of child development and how children learn
- Work cooperatively with other staff members, parents and community resource people
- Have knowledge of and promote health and safety in children's programs
- Understand and utilize appropriate techniques for guiding child behavior

Admission Requirements

- A high school diploma or GED
- Admission test
- Course placement assessment of basic skills proficiency
- Documentation of compliance with Wisconsin's Caregiver law
- Good health as evidenced by medical examination
- Proper immunizations

Start Dates: August/January

For Information

414-297-6584, matc.edu

Related Programs

Preschool certificate, Early Childhood Education, Associate in Arts – Educational Foundations Track

SIXTEEN-WEEK TERMS

	Credits
CHILDD-151 ECE: Infant and Toddler Development	3
CHILDD-167 ECE: Health, Safety and Nutrition ^	3
CHILDD-179 ECE: Child Development ^	3
CHILDD-188 ECE: Guiding Child Behavior ^	3
CHILDD-148 ECE: Foundations of Early Childhood Education ^	3
CHILDD-178 ECE: Art, Music and Language Arts ^	3
CHILDD-174 ECE: Practicum 1	3
CHILDD-195 ECE: Family and Community Relations.....	3
ENG-151 Communication Skills 1 ‡.....	3
(or) ENG-201 English 1	

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Preschool certificate; additional course required, see the certificates page at the end of the School of Liberal Arts and Sciences section.

Early Childhood Education

ASSOCIATE DEGREE

Program Code: 10-307-1

Downtown Milwaukee and West Allis campuses

Pursue a career in child care or exceptional education settings for young children and have a positive impact on a child's life. This Associate in Applied Science degree program offers a comprehensive course of study covering healthcare, nutrition, literature and language arts, creative activities, communication skills and supervised experience in licensed child care centers. Program requirements include the completion of four practicum experiences. All courses are offered in English; **a bilingual mode is offered at the West Allis Campus.**

Career Pathway

Earn the Child Care Services technical diploma on your way to completing this degree.

Career Outlook

Opportunities exist in child care centers, or working with exceptional-needs children.

Program Learning Outcomes

- Plan daily/weekly schedules of developmentally appropriate activities
- Understand and apply knowledge of child development and how children learn
- Have knowledge of and promote health and safety in children's programs
- Understand and utilize appropriate techniques for guiding child behavior
- Prepare written plans, progress records, parent communications and reports
- Work cooperatively with other staff members, parents and community resource people

Admission Requirements

- A high school diploma or GED
- Admission test
- Course placement assessment of basic skills proficiency
- Documentation of compliance with Wisconsin's Caregiver Law
- Good health as evidenced by a medical exam
- Proper immunizations

Related Programs

Child Care Services, Preschool certificate, Associate in Arts – Educational Foundations Track

Start Dates: August/January

For Information

414-297-6584, matc.edu

 **MILWAUKEE AREA Technical College**
School of LIBERAL ARTS and SCIENCES

TECHNICAL STUDIES

Credits

(1) CHILDD-148	ECE: Foundations of Early Childhood Education ^.....	3
(1) CHILDD-151	ECE: Infant and Toddler Development ^	3
(1) CHILDD-167	ECE: Health, Safety and Nutrition ^	3
(1) CHILDD-174	ECE: Practicum 1 ^	3
(1) CHILDD-178	ECE: Art, Music and Language Arts ^	3
(2) CHILDD-179	ECE: Child Development ^	3
(2) CHILDD-188	ECE: Guiding Child Behavior ^.....	3
(2) CHILDD-192	ECE: Practicum 2 ‡	3
(2) CHILDD-194	ECE: Math, Science and Social Studies ‡	3
(3) CHILDD-166	ECE: Curriculum Planning ‡	3
(3) CHILDD-187	ECE: Children with Differing Abilities.....	3
(3) CHILDD-195	ECE: Family and Community Relationships ^	3
(3) CHILDD-197	ECE: Practicum 3 ‡	3
(4) CHILDD-198	ECE: Administering an Early Childhood Program.....	3
(4) CHILDD-199	ECE: Practicum 4 ‡	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-172	Basic Nutritional Science	3
	(or) NATSCI-233 Environmental Science	
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) SOCSCI-217 Valuing Diversity	

SELECT TWO COURSES; ONE EACH FROM TWO GROUPS: 6

#1 MATH-107	College Mathematics ‡ (or) MATH-275 Math Exploration for Elementary Teachers
#2 ECON-195	Economics (or) ECON-201 or ECON-202
#3 SOCSCI-197	Contemporary American Society (or) SOCSCI-205 Social Problems

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

CHILDD-168	Group Programming for Infants
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

You must earn a grade of C or higher in all Early Childhood Education (CHILDD) courses in order to pass those courses.

^ Counts toward earning the Child Care Services diploma.

() = Semester order for full-time students.

Possible Careers: Child Care Services, Child Care Teacher, Exceptional Education Paraprofessional

Human Service Associate

ASSOCIATE DEGREE

Program Code: 10-520-3

Downtown Milwaukee Campus

Real-world experience will be part of your studies as you prepare for employment as a social service worker. Students can pursue special-interest areas such as working with youths, the elderly or people with disabilities or addictions. This program requires an early field experience, as well as the completion of an advanced field placement experience in the final semester of the program. The program is endorsed for substance abuse training. Students who complete this Associate in Applied Science degree with specific elective choices also complete all the education hours needed for certification as a substance abuse counselor. Additional work experience and testing are required for certification.

Core skills include cultural awareness and an understanding of diverse cultural groups, a responsible attitude and commitment to serve others. You should be a good listener and communicator.

Career Outlook

Human service associates find careers with a range of agencies and programs that help people. Graduates work in community outreach programs, social agencies, counseling centers, educational institutions or correctional facilities.

Program Learning Outcomes

Employers expect graduates to demonstrate:

- Recordkeeping and interviewing skills, including the preparation of clinical records, assessments, and interim notes and development of service plans
- Capabilities in group leadership, and the ability to effectively perform critical listening, observation, and engagement skills with individuals and groups
- Cultural awareness and skills in relating to diverse cultural, ethnic and racial groups

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Documentation of compliance with Wisconsin's Caregiver Law

Related Programs

Associate in Arts – Educational Foundations Track, Early Childhood Education, Interpreter Technician

Start Dates: August/January

For Information

414-297-6584, matc.edu



TECHNICAL STUDIES

Credits

(1) HUMSVC-101	Introduction to Human Services ‡	3
(1) HUMSVC-144	Ethics in the Human Service Professions ‡	3
(1) AODA-109	Drug Use and Abuse	3
(2) HUMSVC-102	Interviewing Skills ‡	3
(2) HUMSVC-103	Group Work Skills ‡	3
(2) HUMSVC-113	Documentation and Recordkeeping ‡	3
(2) HUMSVC-118	Introduction to Gerontology ‡	3
(3) HUMSVC-142	Multicultural Competence in the Human Service Profession ‡	3
(3) HUMSVC-104	Field Preparation ‡	1
(3) HUMSVC-115	Methods of Social Casework ‡	3
(3) HUMSVC-127	Disabilities and the Helping Profession	3
(4) HUMSVC-106	Advanced Field Experience ‡	4
(4) HUMSVC-107	Field Experience Seminar ‡	2
(4) HUMSVC-121	Family Issues and Interventions ‡	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-172	Basic Nutritional Science	3
	(or) Any 200-level NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) PSYCH-231 Introductory Psychology	
SOCSCI-197	Contemporary American Society	3
	(or) SOCSCI-203 Introduction to Sociology	

SELECT TWO COURSES; ONE EACH FROM TWO GROUPS: 6

#1 MATH-107	College Mathematics ‡	
	(or) Any 200-level Math course	
#2 ECON-195	Economics	
	(or) ECON-201 or ECON-202	
#3 PSYCH-188	Developmental Psychology	
	(or) PSYCH-238 Life-Span Psychology	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

NATSCI-261	Introduction to Pharmacology	
AODA-151	Clinical Evaluation and Treatment Planning ‡	
AODA-154	Counseling Skills Development	

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Case Manager, Community Outreach Worker, Corrections Counselor, Substance Abuse Counselor, Youth Care Specialist

Interpreter Technician

ASSOCIATE DEGREE

Program Code: 10-533-2

Downtown Milwaukee Campus

Prepare for entry-level employment as a sign language interpreter for deaf and hard-of-hearing persons. The coursework for this Associate in Applied Science degree prepares you to interpret the spoken English of hearing people and present it to deaf and hard-of-hearing people in American Sign Language (ASL). You will also be instructed in interpreting American Sign Language into spoken English, and develop knowledge of the culture of deaf people in America.

Attributes that contribute to success include normal vision, eye-hand coordination, motor coordination, firm grasp of the English language, fluent reading skills, and a broad vocabulary. One also needs the ability to sit and/or stand for extended periods. Upon successful completion of this program, you may take the Wisconsin Interpreter/Transliterator Assessment and/or the Registry of Interpreters for the Deaf, Inc., National Interpreter Certification written exam.

Career Outlook

Community agencies, organizations and service providers are hiring interpreters in conformance with federal regulations. Most full-time jobs are in the educational setting. Freelance opportunities are abundant. State and national tests may be taken to demonstrate skill.

Program Learning Outcomes

- Demonstrate proficiency in interpreting spoken English into American Sign Language, and American Sign Language into spoken English
- Reflect an understanding of the American deaf culture
- Exhibit strong interpersonal and communication skills
- Provide orientations on the appropriate use of American Sign Language interpreters to deaf, hard-of-hearing, and hearing consumers
- Maintain confidentiality and be guided by the Code of Ethics of the Registry of Interpreters of the Deaf, Inc.
- Demonstrate superior English language skills

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- Completion of two years of ASL in high school, or MATC courses INTP-126 and INTP-127 American Sign Language 1 and 2, or the equivalent
- Completion of MATC's Health Examination Packet and a criminal background check

Start Date: August

For Information

414-297-6584, matc.edu

TECHNICAL STUDIES

	Credits
(1) INTP-131 Interpreting 1 ‡	5
(1) INTP-133 American Sign Language Linguistics ‡	3
(1) INTP-139 Orientation to Deafness	3
(2) INTP-143 Interpreting 2 ‡	5
(2) INTP-145 The Interpreting Process ‡	2
(2) INTP-147 Interpreting Ethics ‡	3
(2) INTP-149 Social Aspects of Deafness ‡	3
(3) INTP-138 Interpreting 3 ‡	5
(3) INTP-151 Educational Interpreting: Theory and Function ‡	3
(4) INTP-144 Interpreting 4 ‡	3
(4) INTP-153 Occupational Experience ‡	5
(4) INTP-161 Employment Preparation for Interpreters ‡	3

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107 College Mathematics ‡	3
(or) Any 200-series MATH course	
NATSCI-167 Science of Technology	3
(or) Any 200-series NATSCI course	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED 6

INTP-135 Building Conversational Fluency ‡	
INTP-150 Oral Interpreting ‡	
PHYED-210 An Active Approach to Wellness and Fitness	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

AODA Substance Abuse Counselor

Downtown Milwaukee Campus

This 360-hour certificate program provides students with the classroom education and training required for substance abuse counselors in Wisconsin. Additional supervised work experience (about 3,500 hours), additional written examinations, and an application portfolio must also be completed for state certification as a substance abuse counselor.

Courses also can be used for continuing education credits. For details on state requirements, see Health Professions: Substance Abuse Counselor at dps.wi.gov.

COURSE	CREDITS
AODA-151 Clinical Evaluation and Treatment Plan ‡	3
HUMSVC-127 Disabilities and the Helping Profession	3
AODA-154 Counseling Skills Development ‡	3
AODA-161 Treatment Issues	1
AODA-152 Service Coordination and Documentation ‡	3
AODA-162 Service Delivery Issues	1
NATSCI-261 Introduction to Pharmacology	3
AODA-109 Drug Use and Abuse	3
AODA-150 Professional Readiness and Ethical Response.....	3
AODA-160 Ethical Dilemmas.....	1
TOTAL CREDITS:	24

Biotechnology

Downtown Milwaukee Campus

The Biotechnology certificate program offers hands-on, competency-based instruction designed to prepare students for entry-level positions in the bio-manufacturing industry. The program provides scientific background while emphasizing practical applications. In the laboratory, students are trained in the actual techniques employed in the industry. Students are introduced to Good Laboratory Practices (GLP), Good Manufacturing Practices (GMP) and related topics that emphasize the significance of maintaining quality in a biological research or production setting.

COURSES	CREDITS
NATSCI-197 Microbiology ‡	4
NATSCI-186 Biochemistry ‡	4
(or) NATSCI-209 Chemistry for Health Sciences	
NATSCI-237 Introduction to Biotechnology ‡	4
NATSCI-238 Molecular Biology Concepts ‡	5
NATSCI-239 Genetics ‡	5
TOTAL CREDITS:	22

Preschool

Downtown Milwaukee and West Allis campuses

Enter the early childhood profession with knowledge about preschool-age children's development and behavior. After completing this certificate, the student will be eligible for the State of Wisconsin Preschool credential.

Admission requirements: A high school diploma or GED, and course placement assessment of proficiency in basic skills.

Career Pathway

Credits earned in this certificate can be applied toward completing the Child Care Services technical diploma and the Early Childhood Education associate degree.

COURSES	CREDITS
CHILDD-148 ECE: Foundations of Early Childhood Education	3
CHILDD-167 ECE: Health, Safety and Nutrition ...	3
CHILDD-188 ECE: Guiding Child Behavior	3
CHILDD-179 ECE: Child Development	3
CHILDD-178 ECE: Art, Music and Language Arts ..	3
CHILDD-102 Preschool Capstone ‡	3
TOTAL CREDITS:	18

‡ Prerequisite required. Program curriculum requirements are subject to change.

All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher. Certificate programs are not eligible for financial aid, and the student initiates the request for certificates upon completion of the requirements; consult an MATC advisor for details. Start dates for these certificate programs: August/January.

Prepare for innovative, creative careers by mastering the key fundamental skills for the latest technologies. The School of Media and Creative Arts features engaging, digital-based teaching and learning. Students gain experience through hands-on work in MATC's industry-standard labs and through internships; Television and Video Production students receive instruction at Milwaukee Public Television studios.

Call 414-297-6433 for information about programs in the School of Media and Creative Arts.

Start Your Four-Year Degree at MATC: If your goal is to earn a bachelor's degree, you can transfer associate degree program credits to one or more four-year institutions. See four-year transfer information at matc.edu.

For all degree programs, students who have not decided on a program, or are awaiting acceptance into a program, may begin with the General Studies courses if the course prerequisites have been met.

For class times and locations or to register online, visit INFOline at matc.edu.

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Audio Engineer

Technical Diploma, page 139

Audio Production

Associate in Applied Science Degree, page 140

Computer Simulation and Gaming

Associate in Applied Science Degree, page 141

Creative Advertising Strategist

Associate in Applied Science Degree, page 142

Digital Imaging

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Graphic Design

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Individualized Technical Studies

Associate in Applied Science Degree
For details about this individualized degree, see page 63 in the School of Business.

Interactive Media

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Mobile Application Designer

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Mobile Designer

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Music Occupations

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TV/Video Studio Production Assistant

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Unity Developer

Technical Diploma, page 154

Web Designer

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Advanced Television Post-Production

Animation

ASSOCIATE DEGREE

Program Code: 10-207-1

Downtown Milwaukee Campus

MATC's unique facilities, in combination with the program's curriculum, offer students a comprehensive background in animation through this Associate in Applied Science degree program. Students select either the 2D Animation or the 3D Animation emphasis.

Career Outlook

The career potential for animation is exceptional as animation is being used in more industries. From visualization of architectural spaces to video games to effects in movies, animation is expanding.

Program Learning Outcomes

Employers expect graduates to possess skills in:

- Project planning
- Concept sketching
- Storyboarding
- Modeling techniques
- Animation
- Texture creation
- Lighting techniques
- Rendering techniques
- Practical systems knowledge

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Computer Simulation and Gaming, Graphic Design, Interactive Media, Television and Video Production

Start Dates: August/January

For Information

414-297-6433, matc.edu



Possible Careers: Character Designer, Animator 2D/3D, Background Designer, Industrial Product Designer, 3D Modeling Specialist, Character Rigger

TECHNICAL STUDIES

Credits

(1) ANIM-101	Basic Drawing for Animators	3
(1) ANIM-104	Principles of Character Development.....	3
(1) ANIM-106	Principles of 3D Animation	3
(1) CSG-115	CSG Production Lab	3
(2) ANIM-156	Broadcast Animation ‡	3
(4) ANIM-150	Advanced Animation ‡	2
(4) CSG-119	Interactive Simulation Displays ‡	3
(4) ANIM-160	Animation Portfolio ‡	2

CHOOSE ONE EMPHASIS:

2D ANIMATION EMPHASIS:

(2) ANIM-121	Intermediate 2D Animation ‡	3
(2) ANIM-114	Storyboard Pro ‡	3
(2) ANIM-110	Digital Life Drawing	3
(2) ANIM-124	Animation Layout and Design ‡	3
(3) ANIM-133	Advanced Conceptual Design ‡	3
(3) ANIM-131	Advanced 2D Animation ‡	3
(3) ANIM-138	Animation for Game Development ‡	3
(3) ANIM-141	Acting for Animation and Lip Sync ‡	3
(3) ANIM-111	Intermediate Digital Life Drawing ‡	3

3D ANIMATION EMPHASIS:

(2) ANIM-120	Environment and Set Design ‡	3
(2) ANIM-125	3D Modeling ‡	3
(2) ANIM-180	Digital Cinematography ‡	3
(2) ANIM-140	Timelines, Keyframes and Kinematics ‡	3
(3) ANIM-115	Refining the Character ‡	3
(3) ANIM-130	3D Simulations and Illustrations ‡	3
(3) ANIM-145	Intermediate 3D Animation ‡	3
(3) ANIM-135	Character Expression and Lip Sync ‡	3
(3) ANIM-165	Motion Analysis for Animation ‡	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Audio Engineer

TECHNICAL DIPLOMA

Program Code: 30-701-1

Downtown Milwaukee Campus

Completing this two-semester program will prepare you for entry-level positions in the audio engineering field, including working with live sound at concerts, stage and church settings; studio recording and studio engineering; field recording; production of beats; audio for gaming; sound for film; and sound for interactive applications such as animation, multimedia and the web. Students should have normal hearing and visual abilities, and a well-developed sense of creativity with a talent for problem-solving. Important to your success in this program is your ability to work as part of a team as well as being a self-starter, and to be able to work under stress and meet deadlines.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Audio Production associate degree.

Career Outlook

Positions for recording engineers exist with commercial recording studios producing final product for recording artists; studios producing audio voice, music and sound effects for commercials and radio programs; studios recording music for publishing companies, movie soundtracks and sound effects tracks; animation; gaming and multimedia. Other opportunities include audio engineers for live music applications.

Program Learning Outcomes

Employers will expect program graduates to:

- Be technically and artistically prepared for entry-level employment in the audio recording industry
- Demonstrate mastering skills
- Demonstrate live mixing skills
- Demonstrate microphone selection and placement
- Demonstrate post-production mixing skills
- Demonstrate core abilities (critical thinking, communication, work habits, using technology)

Start Dates: August/January

For Information

414-297-6433, matc.edu

 **MILWAUKEE AREA Technical College**
School of MEDIA and CREATIVE ARTS

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Audio Production, Music Occupations, Television and Video Production, eProduction

SIXTEEN-WEEK TERMS

	Credits
MUSIC-148 Music Fundamentals 1	2
AUDIO-100 Introduction to Music Software	1
AUDIO-102 Techniques of Sound Recording	3
AUDIO-103 Recording Live Concerts	3
MUSIC-189 Voice Lab 1	1
MUSIC-177 Piano Lab 1	1
AUDIO-111 Advanced Music Software	1
AUDIO-116 Advanced Technology of Sound Recording	3
AUDIO-117 Sound Reinforcement	3
AUDIO-126 Electronics for Audio Engineers	2
ENG-151 Communication Skills 1 ‡	3
(or) ENG-201 English 1	

TOTAL CREDITS: 23

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Audio Engineer, Live Sound Engineer, Mastering Engineer, Mixing Engineer, Music Tracking Engineer

Audio Production

ASSOCIATE DEGREE

Program Code: 10-701-4

Downtown Milwaukee Campus

Combining creative and practical aspects of sound and music, this Associate in Applied Science degree program prepares you to enter the audio engineering field. Coursework covers working with live and recorded sound so graduates are ready for a range of employment options including working on television broadcasts, movie soundtracks, concerts and animation applications. Keys to success include creativity and abilities to problem solve and collaborate. Students should have normal hearing and visual abilities; and be able to work under stress and meet deadlines.



Career Pathway

Earn the Audio Engineer technical diploma on your way to completing this degree.

Career Outlook

The explosion of social media and web use for independent artists, plus the increase in affordable digital audio workstations, present opportunities for audio engineers in live applications, commercial recording studios and home-recording production suites.

Program Learning Outcomes

When you graduate from this program, employers will expect you to possess the following skills:

- Project planning
- Audio recording
- Studio management
- Mastering
- Live mixing
- Communication skills
- Microphone selection and placement
- Post-production mixing

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Demonstration of basic computer skills in operating systems, word processing and the internet

Related Programs

Audio Engineer, Music Occupations

Start Dates: August/January

For Information

414-297-6433, matc.edu



TECHNICAL STUDIES

Credits

(1) MUSIC-148	Music Fundamentals 1 ^	2
(1) AUDIO-100	Introduction to Music Software ^	1
(1) AUDIO-102	Techniques of Sound Recording ^	3
(1) AUDIO-103	Recording Live Concerts ^	3
(1) MUSIC-189	Voice Lab 1 ^	1
(2) MUSIC-177	Piano Lab 1 ^	1
(2) AUDIO-111	Advanced Music Software ^	1
(2) AUDIO-114	Critical Listening and Analysis of Sound and Music	2
(2) AUDIO-116	Advanced Technology of Sound Recording ^	3
(3) AUDIO-117	Sound Reinforcement ^	3
(3) AUDIO-118	Studio Management and Design	2
(3) AUDIO-120	Audio Production for Film	3
(3) AUDIO-125	Advanced Midi Recording	1
(3) MUSIC-101	Music Business	2
(4) AUDIO-126	Electronics for Audio Engineers ^	2
(4) AUDIO-127	Interactive Audio	3
(4) AUDIO-128	Final Project – Independent Study	3
(4) EBUS-118	Social Media Technologies	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(& ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED 6

MUSIC-206	History of Rock and Pop
MUSIC-210	World Music Sound and Structure

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Audio Engineer diploma.

() = Semester order for full-time students.

Possible Careers: Audio Engineer, Live Sound Engineer, Music Tracking Engineer, Mixing Engineer, Mastering Engineer, Recording Studio Manager

Computer Simulation and Gaming

ASSOCIATE DEGREE

Program Code: 10-153-1

Downtown Milwaukee Campus

This Associate in Applied Science degree program prepares students for a career in animation and gaming, however the skills obtained in this degree are transferable to other industries such as computer programming, multimedia development and film production. This cross-discipline program is designed to create a work-like environment while teaching planning, design, development and testing of computer simulation and gaming products.

Students choose one of three emphases as shown in the righthand column: Programming, Design or Animation.

Career Pathway

Earn the Unity Developer technical diploma on your way to completing this degree program.

Program Learning Outcomes

Employers will expect graduates to:

- Test simulations and games
- Design an architecture
- Lead a team or project
- Create a working game module
- Communicate in a team environment
- Analyze, design and implement solutions (Programming or Design Emphasis)
- Apply system software principles (Programming)
- Convert logic concepts into OOP code (Programming)
- Manage assets and revision control (Programming)
- Apply artificial intelligence principles (Programming or Design Emphasis)
- Design games (Design Emphasis)
- Create interactive displays (Design Emphasis)
- Create 3D animations (Animation Emphasis)
- Create 3D models (Animation Emphasis)
- Design characters (Animation Emphasis)
- Storyboard your concepts (Animation Emphasis)
- Create environments (Animation Emphasis)

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Demonstration of basic computer skills in OS, word processing and the internet
- Completion of CSG-100 Pre-Entry Evaluation

Start Dates: August/January

For Information

414-297-6433, matc.edu

 **MILWAUKEE AREA Technical College**
School of MEDIA and CREATIVE ARTS

Possible Careers:

Animator, Game Designer, Game Programmer, Producer

TECHNICAL STUDIES

Credits

(1) CSG-110	Introduction to Computer Simulation and Gaming	3
(1) CSG-115	CSG Production ‡ ^	3
(2) CSG-129	CSG Architecture ‡	2
(2) CSG-130	CSG Design ‡	3
(2) CSG-120	Interactive Display Production 1 ^	1
(2) CSG-121	Interactive Display Production 2 ^	1
(2) CSG-122	Interactive Display Production 3 ^	1
(3) CSG-181	CSG Collaborative Lab ‡	4
(4) VICOM-140	Visual Communication Practice ‡	2
(4) CSG-180	Multimedia Collaborative Lab ‡	3

PROGRAMMING EMPHASIS

(1) CSG-117	Game Logic and Problem-Solving ^	3
(1) ITDEV-110	Introduction to OO Programming ^	3
(2) ITDEV-115	Intermediate OO Programming ‡ ^	3
(2) CSG-118	Game Engine Scripting ‡ ^	3
(3) CSG-179	CSG API Programming ‡ ^	4
(3) ITDEV-185	Advanced CSG Programming	3
(4) ITDEV-154	Data Structures and Programming	3
(4) CSG-132	Artificial Intelligence ‡	3

DESIGN EMPHASIS

(1) CSG-117	Game Logic and Problem-Solving ^	3
(1) CSG-131	Introduction to Game Design	3
(2) CSG-133	Intermediate Game Design ‡	3
(2) CSG-118	Game Engine Scripting ‡ ^	3
(3) CSG-138	Advanced Game Design ‡	3
(3) CSG-179	CSG API Programming ‡ ^	4
(4) CSG-119	Designing Interactive Displays ‡ ^	3
(4) CSG-132	Artificial Intelligence ‡	3

ANIMATION EMPHASIS

(1) ANIM-104	Principles of Character Development	3
(1) ANIM-106	Principles of 3D Animation	3
(2) ANIM-120	Environment and Set Design ‡	3
(2) ANIM-125	3D Modeling ‡	4
(3) ANIM-140	Timeline Key Frames and Kinematics ‡	3
(3) ANIM-115	Refining the Character ‡	3
(4) ANIM-135	Character Expression and Lip Sync ‡	3
(4) ANIM-160	Animation Portfolio ‡	3

GENERAL STUDIES

ECON-195	Economics (or) Any 200-series ECON course	3
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡ ^	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Unity Developer diploma.

() = Semester order for full-time students.

Creative Advertising Strategist

ASSOCIATE DEGREE
Program Code: 10-201-4

Downtown Milwaukee Campus

Using case studies and projects, students in this Associate in Applied Science program study the creative strategies behind promotional campaigns, with a focus on the importance of precision demographics. Coursework in concept and project development, social and viral communication methods, media planning and digital graphics prepares you to enter the advertising and communications fields. A well-developed imagination and talent for visual problem-solving, plus computer and math skills, will enhance your success.

Career Outlook

In the digital world, employees with skills in new methods of implementing advertising strategies are in demand.

Program Learning Outcomes

- Demonstrate creative skills with regard to concept and project development
- Demonstrate strong visualization skills with regard to project development
- Understand/demonstrate the practice of thorough concept development
- Utilize marketing research to implement creative project strategies
- Execute design/project solutions using all the principles of design
- Execute concept layouts in stages ranging from rough concept to final comprehensive
- Prepare final design concepts for correct digital application
- Appropriately use computer design hardware and software, including basic file management and network communications
- Execute a professional portfolio highlighting industry-relative skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Graphic Design, Advertising Specialist,
Marketing Management

Start Dates: August/January

For Information

414-297-6433, matc.edu



TECHNICAL STUDIES

Credits

(1) CAS-125	Concept Development 1 – Original Ideas.....	3
(1) CAS-126	History of Advertising and Media	3
(1) MKTG-102	Marketing Principles.....	3
(1) CAS-127	Ethical Guidelines, Usage and Copyright	3
(2) MKTG-125	Advertising.....	3
(2) MKTG-173	Marketing Research.....	3
(2) CAS-137	Concept Development 2 – Advanced Concepts.....	3
(2) MKTG-104	Selling Principles	3
(3) CAS-141	New Media Strategies.....	3
(3) CAS-142	Guerrilla and Viral Methods.....	3
(3) CAS-143	User Experience – UE 2.0	3
(3) MKTG-144	Project Parameters and Proposals	3
(4) CAS-146	CAS Design Portfolio.....	3
(4) MKTG-134	IMC Management ‡	3
(4) MKTG-129	Ad Campaign Strategies ‡.....	3
(4) CAS-149	Practical Applications Workshop	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Art Director, Advertising Strategist, Content Strategist, Creative Strategist, Brand Strategist, Graphic Artist, Graphic Designer

Digital Imaging

TECHNICAL DIPLOMA

Program Code: 30-203-1

Downtown Milwaukee Campus

To prepare for the photography/digital imaging field, students will use professional equipment and methods to master the skills necessary for this highly visual, creative and exacting profession. Coursework focuses on core-competencies related to fundamental skills, techniques and trends in the industry within composition, lighting and image manipulation.

Students are required to own a Canon or Nikon D-SLR camera with manual exposure controls, adjustable apertures and shutter speeds, and interchangeable lens capabilities in order to complete course requirements.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Photography associate degree.

Career Outlook

As the photo industry continues to evolve, new and exciting job opportunities exist in professional-level still and video photography. This one-year program will assist in preparing you for an entry-level position.

Program Learning Outcomes

Employers expect graduates to:

- Be technically and artistically prepared for entry-level employment in the photographic industry
- Demonstrate the core abilities (critical thinking, communication, work habits, using technology)
- Demonstrate digital photography fundamentals and skills
- Investigate, communicate and manipulate captured images

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Photography, Creative Advertising Strategist, eProduction, Graphic Design, Interactive Media, Television and Video Production

Start Dates: August/January

For Information

414-297-6433, matc.edu



SIXTEEN-WEEK TERMS

	Credits
PHOTO-101 Digital Fundamental Photography	3
PHOTO-141 Photoshop for Photographers 1 ‡	3
PHOTO-107 Photographic Trends	1
PHOTO-108 Photographic Lighting ‡	3
PHOTO-130 Photographic Composition	3
PHOTO-139 Measurement Techniques ‡	3
PHOTO-142 Photoshop for Photographers 2 ‡	3
ENG-151 Communication Skills 1 ‡	3
(or) ENG-201 English 1	
MATH-123 Math with Business Applications ‡	3
(or) Any 200-series MATH course	

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Second Assistant (Advertising, Wedding and Portrait, Video Photography), Entry-Level Digital Lab Technician, Photojournalism Stringer

eProduction

ASSOCIATE DEGREE

Program Code: 10-701-3

Downtown Milwaukee Campus

Start a career in the fast-growing world of on-demand visual media content through this Associate in Applied Science degree program. Coursework prepares you to produce and distribute high-quality electronic video content for the internet, smartphones and other emerging, interactive technologies. Students learn how to acquire, edit and recode media for multiple delivery platforms. Students gain real-world experiences at Milwaukee Public Television studios and working with other professionals in visual media programming.

Career Pathway

Earn the TV/Video Field Production Assistant technical diploma on your way to completing this degree.

Career Outlook

The need for employees skilled in the electronic production of content on-demand is growing as businesses strive to reach consumers via new technologies.

Program Learning Outcomes

- Demonstrate acute creative skills with regard to video and eproduction
- Demonstrate strong visualization skills with regard to a multitude of media delivery methods
- Understand/demonstrate practice of thorough concept development and media creation
- Use research to implement creative project strategies and applications
- Execute design/project solutions using principles of design, television/video and multimedia
- Execute solutions in data asset management and file coding for various delivery options
- Prepare final design concepts for correct digital application
- Appropriately use computer design hardware and software, including nonlinear editing platforms and other visual media tools
- Execute a professional portfolio of industry-relative skills

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency

Related Programs

TV/Video Field Production Assistant, Interactive Media, Mobile Designer, Television and Video Production

Start Dates: August/January

For Information

414-297-6433, matc.edu

TECHNICAL STUDIES

Credits

(1) VICOM-150	Introduction to Digital Media	3
(1) TV-101	TV/Video Studio Production Techniques ^	4
(1) TV-181	Video in Society ^	1
(1) EPROD-150	Introduction to eProduction ^	3
(2) TV-107	Scriptwriting for Visual Media ‡	3
(2) TV-105	TV/Video Field Production Techniques ‡ ^	4
(2) TV-112	Storytelling Via Post-Production ‡ ^	3
(2) EPROD-151	Data Content Management and Implementation ^	3
(3) EPROD-152	eProduction Techniques and Implementation	3
(3) EPROD-153	eProduction Practicum 1 ^	3
(3) TV-142	Non-Linear Video Editing and Authoring ‡ ^	3
(3) TV-144	Graphic Design for Video Integration ‡	3
(3) EBUS-118	Social Media Technologies	3
	(or) CAS-127 Ethical Guidelines, Usage and Copyright ^	
	(or) COMART-182 Graphic Arts Business Skills	
(4) EPROD-154	eProduction Integration	3
(4) EPROD-155	eProduction Advanced Techniques	3
(4) VICOM-123	Website Development ‡	3
	(or) TV-143 Interactive Content	

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(& ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 English 1 and ENG-205 Journalism 1	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) SOCSCI-149 Ethics for the Professions	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the TV/Video Field Production Assistant diploma.

() = Semester order for full-time students.

Graphic Design

ASSOCIATE DEGREE

Program Code: 10-201-1

Downtown Milwaukee Campus

To prepare for a graphic design career, this Associate in Applied Science degree program will introduce you to a variety of work-related disciplines: design of print- and computer-generated graphics for books, technical manuals, newspapers, magazines, web applications and advertising/marketing materials; and additional design applications for promotional pieces, point-of-purchase, packaging and outdoor advertising. Students will produce a portfolio of their work. A well-developed imagination, talent for visual problem-solving, and also computer, math and communication skills will enhance your success.

Career Outlook

Today's digital world reduces the geographic limits for finding clients, which expands work opportunities for graphic designers. Employers include advertising agencies, corporations and nonprofit groups.

Program Learning Outcomes

Employers will expect graduates to:

- Demonstrate strong visual skills in two- and three-dimensional design concepts
- Execute design solutions using principles of balance, composition, color, light, texture, line and form
- Have knowledge and skill in typography
- Create illustrations using various styles
- Execute layouts from rough concept to comprehensive
- Prepare camera-ready artwork or press-ready electronic files
- Intelligently use computer design hardware and software, including basic file management and network communication

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- A portfolio with 10 examples of student's work in art and related media

Related Programs

Animation, Computer Simulation and Gaming, Creative Advertising Strategist, Interactive Media, Photography, Television and Video Production, Web Designer

Start Dates: August/January

For Information

414-297-6433, matc.edu



TECHNICAL STUDIES

Credits

(1) COMART-103	Design Elements and Principles	3
(1) COMART-107	Digital Imaging: Adobe Photoshop	3
(1) COMART-115	Typography 1	3
(1) COMART-122	Vector Graphics: Adobe Illustrator.....	3
(2) COMART-104	Design Research and Conception ‡.....	2
(2) COMART-106	Graphic Design Trends ‡	3
(2) COMART-110	Publication Design Using Adobe InDesign ‡	3
(2) COMART-111	Advertising Layout ‡	3
(3) COMART-109	Photographic Art Direction ‡.....	1
(3) COMART-117	Packaging and Exhibition Design ‡	3
(3) COMART-116	Interactive Media Design ‡.....	3
(3) COMART-118	Typography 2 ‡.....	3
(4) COMART-112	Graphic Design Workshop ‡	3
(4) COMART-113	Media Campaign Development ‡	3
(4) COMART-152	Digital Portfolio ‡	1
(4) COMART-153	Portfolio Assessment	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123	Math with Business Applications ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED

COMART-155	Advanced Visual Design Applications ‡
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Art Director, Creative Director, Digital Media Specialist, Graphic Artist, Graphic Designer

Interactive Media

ASSOCIATE DEGREE

Program Code: 10-206-3

Downtown Milwaukee Campus

MATC's unique facilities and the coursework in animation, digital audio/video, interface design, website design and website development offer a comprehensive background in interactive media. In this Associate in Applied Science degree program, portfolio and internship courses are included to help you prepare samples of your work and initiate a job search. Core abilities include normal vision and hearing, and a talent for visual problem-solving. Also contributing to your success in the program are abilities to work as part of a team, to work well under stress and to meet deadlines.



Career Pathway

Earn the Web Designer technical diploma on your way to completing this degree.

Career Outlook

Individuals possessing skills in multimedia and web production are in demand to fill positions as media specialists, multimedia authors, multimedia programmers, interface designers and web designers.

Program Learning Outcomes

Employers expect program graduates to possess the following skills:

- Project planning
- Interactive interface design
- Multimedia authoring
- Animation
- Web page design
- Web page scripting
- Photography
- Digital audio/video production

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Demonstration of basic computer skills in operating systems, word processing and the internet

Related Programs

Web Designer, Animation, Mobile Application Designer, Photography, Television and Video Production

Start Dates: August/January

For Information

414-297-6433, matc.edu



Possible Careers:

3D Digital Artist, Web Designer, Multimedia Developer

TECHNICAL STUDIES

Credits

(1) VICOM-128	Web Development with HTML/CSS ^	3
(1) VICOM-150	Introduction to Digital Media ^	3
(1) VICOM-108	Multimedia Scripting Basics ^	1
(1) VICOM-154	Digital Darkroom Techniques ‡	3
(2) COMART-103	Design Elements and Principles	3
(2) VICOM-134	Audio Production ‡	3
(2) VICOM-123	Website Development ‡ ^	3
(2) VICOM-152	Interactive Design for Multimedia ‡ ^	3
(3) ANIM-156	Broadcast Animation ‡	3
(3) VICOM-105	Multimedia and Web Authoring ‡ ^	3
(3) VICOM-137	Interactive Video ‡	3
(4) VICOM-140	Visual Communications Practices ‡	2
(4) VICOM-145	Visual Communications Portfolio ‡	3

Select nine credits from the following three-credit courses: 9

VICOM-136	Advanced Multimedia Techniques ‡
VICOM-135	Interactive Multimedia Systems ‡
VICOM-162	Database-Driven Web Design ‡ ^
VICOM-124	Content Management Systems ‡
VICOM-125	Advanced Website Development ‡ ^
VICOM-126	Mobile Web Development ‡ ^
EBUS-118	Social Media Technologies ^
PHOTO-101	Digital Fundamental Photography
COMART-182	Graphic Arts Business Skills
CAS-143	User Experience – UE 2.0

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

ANIM-106	Principles of 3D Animation
PHYED-210	An Active Approach to Wellness and Fitness
VICOM-127	Illustrated Storytelling

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ = Counts toward earning the Web Designer diploma.

() = Semester order for full-time students.

Mobile Application Designer

TECHNICAL DIPLOMA

Program Code: 31-206-2

Downtown Milwaukee Campus

Combining coursework in mobile application design, web development and social media marketing, this program prepares students to work with the latest technology. Students plan, design and publish websites; design mobile applications and apply multiple web development languages to mobile and desktop internet platforms. Important to success are abilities to work as part of a team, to work under stress and to meet deadlines. You should have a well-developed imagination, talent for visual problem-solving, and normal hearing and vision.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Mobile Designer associate degree.

Career Outlook

The demand for mobile application designers is increasing as more businesses and organizations update their communication strategies to evolve with new technology.

Program Learning Outcomes

Employers expect program graduates to:

- Design mobile applications
- Demonstrate responsive web design
- Design and develop websites using industry-leading web authoring software
- Develop websites using up-to-date languages
- Design interactive interfaces
- Use project planning techniques
- Develop social media strategies
- Demonstrate professionalism and good communication skills

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills through a course placement assessment
- Demonstration of basic computer skills in operating systems, word processing and the internet

Related Programs

Mobile Designer, Interactive Media, IT Mobile Applications Developer, Web Designer

Start Dates: August/January

For Information

414-297-6433, matc.edu

 **MILWAUKEE AREA Technical College**
School of MEDIA and CREATIVE ARTS

SIXTEEN-WEEK TERMS

Credits

EBUS-118	Social Media Technologies.....	3
ENG-151	Communication Skills 1 ‡ (or) ENG-201 English 1	3
VICOM-108	Multimedia Scripting Basics	1
VICOM-123	Website Development ‡	3
VICOM-128	Web Development with HTML/CSS	3
VICOM-150	Introduction to Digital Media	3
VICOM-124	Content Management Systems ‡	3
VICOM-126	Mobile Web Development ‡	3
VICOM-162	Database-Driven Web Design ‡	3
VICOM-163	iPhone/iPad (iOS) Application Development ‡	3
VICOM-164	Android Application Development ‡	3

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Mobile Application Designer, Mobile Web Designer, Web Developer, Web Designer, Front-End Designer

Mobile Designer

ASSOCIATE DEGREE

Program Code: 10-206-6

Downtown Milwaukee Campus

Geared toward front-end development, this Associate in Applied Science degree program prepares students for the mobile design field. Coursework covers skills in mobile application design, mobile web development, interface design and web development. Portfolio and internship courses are included so students can acquire real-world experience and compile samples of their work.

Important to your success are the abilities to visualize solutions, use your imagination, work as part of a team, and be able to work under stress and meet deadlines; you should possess normal hearing and vision.

Career Pathway

Earn the Mobile Application Designer technical diploma on your way to completing this degree.

Career Outlook

The rapid growth of internet-enabled mobile devices has led to an increased demand for skills in mobile application design and mobile web development.

Program Learning Outcomes

Employers will expect program graduates to possess the following skills:

- Mobile web development
- Mobile application design
- Web development
- Web design
- Website scripting
- Project planning
- Interactive interface design
- Professionalism and good communication skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Demonstration of basic computer skills in operating systems, word processing and the internet

Related Programs

Mobile Application Designer, eBusiness Technology Analyst, Interactive Media, IT Mobile Applications Developer, Web Designer

Start Dates: August/January

For Information

414-297-6433, matc.edu

TECHNICAL STUDIES

Credits

(1) EBUS-118	Social Media Technologies ^.....	3
(1) VICOM-108	Multimedia Scripting Basics ^	1
(1) VICOM-128	Web Development with HTML/CSS ^	3
(1) VICOM-150	Introduction to Digital Media ^	3
(2) COMART-103	Design Elements and Principles	3
(2) VICOM-163	iPhone/iPad (iOS) Application Development ‡ ^	3
(2) VICOM-123	Website Development ‡ ^	3
(2) VICOM-152	Interactive Design for Multimedia ‡	3
(3) VICOM-164	Android Application Development ‡ ^	3
(3) CAS-143	User Experience - UE 2.0	3
(3) VICOM-124	Content Management Systems ‡ ^	3
(3) VICOM-126	Mobile Web Development ‡ ^	3
(4) VICOM-140	Visual Communication Practices ‡	2
(4) VICOM-145	Visual Communication Portfolio ‡	3
(4) VICOM-165	Advanced Mobile Development	3

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡.....	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

VICOM-125	Advanced Website Development ‡
VICOM-162	Database-Driven Web Design ‡ ^

TOTAL CREDITS: 66

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Mobile Application Designer diploma.

() = Semester order for full-time students.

Possible Careers: Mobile Application Designer, Mobile Web Designer, Web Developer, Web Designer, Front-End Designer

Music Occupations

ASSOCIATE DEGREE

Program Code: 10-805-1

Downtown Milwaukee Campus

Prepare for a career in music by developing your skills as a well-rounded musician. In this Associate in Applied Science degree program, areas of study include theory fundamentals such as reading, analysis, composition, ear training and more. From the classics to jazz to today's most popular styles, MATC's curriculum is diverse. The performance classes offer on-stage experience. Working with professionals in the sound recording field enhances skills that will apply to opportunities as a sound support technician or owning a recording studio.

Career Outlook

By extending your musical skills, you increase your possibilities in the music industry. The courses are tailored to meet the needs of musicians working the real world of agents and gigs. Whether your interest is in front of the microphone or behind the mixing board, MATC can help you get started on your career path.

Program Learning Outcomes

Employers will expect graduates to:

- Read and notate music at a professional level
- Demonstrate professional work habits such as punctuality, organization, congeniality and reliability
- Successfully present a marketing plan for performing groups
- Display a working knowledge of current music technologies

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Audio Production, Audio Engineer

Start Date: August

For Information

414-297-6433, matc.edu



Possible Careers:

Musician, Music Teacher, Recording Engineer, Composer

TECHNICAL STUDIES

Credits

(1) MUSIC-103	Major Instrument 1 (Guitar, Bass, Drums, Reeds, Brass) .	1
(1) MUSIC-150	Music Theory	4
(1) MUSIC-162	Music Ensemble 1	1
(1) MUSIC-175	Music Reading	3
(1) MUSIC-177	Piano Lab 1	1
(1) MUSIC-189	Voice Lab 1	1
(1) MUSIC-190	Choir 1	1
(2) MUSIC-101	Music Business	2
(2) MUSIC-104	Major Instrument 2 ‡	1
(2) MUSIC-118	Music Analysis ‡	3
(2) MUSIC-120	Choir 2 ‡	1
(2) MUSIC-151	Music Harmony ‡	4
(2) MUSIC-163	Music Ensemble 2 ‡	1
(2) MUSIC-178	Piano Lab 2 ‡	1
(3) MUSIC-105	Major Instrument 3 ‡	1
(3) MUSIC-141	Music Ensemble 3 ‡	1
(3) MUSIC-152	Composition ‡	3
(3) MUSIC-167	Improvisation 1 ‡	1
(3) MUSIC-174	Ear Training 1 ‡	2
(3) MUSIC-191	Performance Techniques 1 ‡	3
(4) MUSIC-106	Major Instrument 4 ‡	1
(4) MUSIC-119	Music Ensemble 4 ‡	1
(4) MUSIC-125	Music Studio Teaching Methods ‡	1
(4) MUSIC-153	Music Technology ‡	3
(4) MUSIC-184	Ear Training 2 ‡	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
MATH-123	Math with Business Applications ‡	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: FOUR CREDITS NEEDED

AUDIO-102	Techniques of Sound Recording ‡
MUSIC-192	Performance Techniques 2 ‡
MUSIC-205	Music Appreciation

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Photography

ASSOCIATE DEGREE

Program Code: 10-203-1

Downtown Milwaukee Campus

Develop skills that will put you on track to excel in this field. Through this Associate in Applied Science degree program, students learn to use professional equipment. MATC's laboratory/studio areas are equipped with state-of-the-art traditional and digital cameras, lighting, processing and finishing equipment. Program requirements include an internship for real-world experience. You should have normal color and depth perception, and a talent for visual problem-solving. Students are required to own a Canon or Nikon D-SLR camera with manual exposure controls, adjustable apertures and shutter speeds, and interchangeable lens capabilities in order to complete course requirements.

Career Pathway

Earn the Digital Imaging technical diploma on your way to completing this degree.

Career Outlook

Photographers are employed in the fields of commercial/advertising, industrial and portrait photography. Photojournalism is an option, as are jobs in photographic sales and as technical representatives. Graduates also may be hired for studio positions specializing in digital imaging applications.

Program Learning Outcomes

- Graduates are technically and artistically prepared for entry-level employment in the photographic industry
- Upon completion of the program, the student will present a professional-quality portfolio
- Students demonstrate the core abilities (critical thinking, communication, work habits, using technology)
- Students will demonstrate digital photography skills learned throughout the program

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Digital Imaging, Graphic Design, Interactive Media, Television and Video Production

Start Dates: August/January

For Information

414-297-6433, matc.edu



TECHNICAL STUDIES

Credits

(1) PHOTO-101	Digital Fundamental Photography ^	3
(1) PHOTO-107	Photographic Trends ^	1
(1) PHOTO-141	Photoshop for Photographers 1 ‡ ^	3
(2) PHOTO-108	Photographic Lighting ‡ ^	3
(2) PHOTO-130	Photographic Composition ^	3
(2) PHOTO-139	Measurement Techniques ‡ ^	3
(2) PHOTO-142	Photoshop for Photographers 2 ‡ ^	3
(3) PHOTO-103	Digital Photography ‡	3
(3) PHOTO-106	View Camera Techniques ‡	3
(3) PHOTO-121	Commercial Photography ‡	3
(3) PHOTO-124	Portraiture ‡	3
(4) PHOTO-114	Photographic Portfolio ‡	3
(4) PHOTO-166	Photographic Management ‡	1
(4) PHOTO-173	Photojournalism ‡	3
(4) PHOTO-180	Industrial Photography ‡	3
(4) PHOTO-190	Photographic Internship ‡	1

GENERAL STUDIES

ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
NATSCI-167	Science of Technology.....	3
	(or) Any 200-series NATSCI course	
MATH-123	Math with Business Applications ‡ ^	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED 6

PHOTO-102	Introduction to Digital Photography
PHOTO-104	Digital Color Management for the Graphic Industry
PHOTO-115	Advanced Digital Photography ‡
PHOTO-126	Advanced Studio Lighting ‡
PHYED-210	An Active Approach to Wellness and Fitness

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Digital Imaging diploma.

() = Semester order for full-time students.

Possible Careers: Digital Media Technician, Digital Output Specialist, Photographer, Photojournalist, Wedding/Portrait Photographer

Television and Video Production

ASSOCIATE DEGREE

Program Code: 10-701-1

Downtown Milwaukee Campus

Prepare for a career in the production, operation and programming areas of broadcast television, cable, or corporate and commercial video through this Associate in Applied Science degree program. You will gain hands-on experience in the high-definition studios of Milwaukee Public Television, a leader in HDTV production. Capabilities necessary for success in the program are teamwork, cooperation, and an ability to accept direction and responsibility. You must be able to work under pressure. Manual dexterity is also needed.

Career Pathway

Earn the TV/Video Studio Production Assistant technical diploma on your way to completing this degree.

Career Outlook

Graduates have an excellent entry-level employment history in a competitive field. Potential employers are TV stations, cable systems, advertising agencies, private industry, educational institutions and video production houses. Opportunities exist for freelance positions or for operating your own business.

Program Learning Outcomes

Employers expect graduates to have expertise in:

- Operation of television studio and control room equipment
- Film-style field acquisition and production including news gathering
- Linear and non-linear videotape editing and scripting techniques
- Utilization of electronic graphics, animation and computers
- Integration of digital and high-definition standards in production
- Remote production and setup
- Lighting, staging and set construction
- Understanding of the television process

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Course placement assessment of basic skills proficiency
- Ability to work outside normal school hours

Related Programs

TV/Video Studio Production Assistant, Animation, eProduction, Graphic Design, Interactive Media

Start Date: August

For Information

414-297-6433, matc.edu

 **MILWAUKEE AREA Technical College**
School of MEDIA and CREATIVE ARTS

Possible Careers: Associate Producer, Cameraperson, Floor Manager

TECHNICAL STUDIES

Credits

(1) TV-101	TV/Video Studio Production Techniques ^	4
(1) TV-113	Television Lighting and Set Construction ‡ ^	3
(1) TV-181	Video in Society ‡ ^	1
(2) TV-121	TV and Video Production Workshop 1 ‡ ^	3
(2) TV-105	TV/Video Field Production Techniques ‡	4
(2) TV-112	Storytelling Via Post-Production ‡	3
(2) TV-107	Script Writing for Visual Media ‡	3
(3) TV-110	Advanced Production Techniques ‡	4
(3) TV-122	TV/Video Production Workshop 2 ‡ ^	3
(3) VICOM-150	Introduction to Digital Media ‡ ^	3
	(or) EPROD-150 Introduction to eProduction	
	(or) EPROD-151 Data Content Management and Implementation	
(4) MKTG-125	Advertising ‡	3
	(or) COMART-182 Graphic Arts Business Skills	
	(or) EBUS-118 Social Media Technologies	
(4) TV-115	Advanced Broadcast Program Production ‡	4
(4) TV-119	Operational Broadcast Engineering ‡ ^	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡ ^	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 English 1 and ENG-205 Journalism 1	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series SOCSCI or HIST course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED

TV-123	TV and Video Production Co-Op 1 ‡ ^
AUDIO-120	Audio Production for Film ^
TV-124	TV and Video Production Co-Op 2 ‡
TV-142	Non-Linear Video Editing and Authoring ‡
TV-143	Interactive Content ‡
TV-144	Graphic Design for Video Integration

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the TV/Video Studio Production Assistant diploma.

() = Semester order for full-time students.

TV/Video Field Production Assistant

TECHNICAL DIPLOMA

Program Code: 31-701-1

Downtown Milwaukee Campus

Gain skills in the basics of field-based production, location lighting, high-definition field camera operation, and principles of non-linear editing and multiformat content distribution. Courses are taught in the Milwaukee Public Television studios for real-world experience.

This program prepares students for on-location, video production entry-level positions. With more companies and other organizations using video for web, social media and in-house communications, professionals skilled in field-content production are relied upon to deliver this content from a wide range of locations.

Career Pathway

After earning this diploma, the credits can be applied toward completing the eProduction associate degree program.

Career Outlook

With video so pervasive in our society, individuals well-versed in TV and video field production are in demand to help capture and deliver stories to the audience. This program prepares the student to assist in that environment and provide production expertise during on-location program content creation and acquisition.

Program Learning Outcomes

Employers will expect program graduates to:

- Be technically and artistically prepared for entry-level employment in the television and video production industry
- Know the operations of field television cameras and web-streaming equipment
- Utilize computers, non-linear editors, professional graphics and animation software
- Have skills in file-based content organization and workflow
- Integrate digital and high-definition standards in production
- Have skills in lighting and staging
- Demonstrate core abilities (critical thinking, communication, work habits, using technology)

Start Dates: August/January

For Information

414-297-6433, matc.edu

 **MILWAUKEE AREA Technical College**
School of MEDIA and CREATIVE ARTS

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Television and Video Production, TV/Video Studio Production Assistant, eProduction, Animation, Interactive Media

SIXTEEN-WEEK TERMS

	Credits
TV-101 TV/Video Studio Production Techniques.....	4
TV-181 Video in Society ‡	1
EPROD-150 Introduction to eProduction	3
ENG-151 Communication Skills 1 ‡..... (or) ENG-201 English 1	3
TV-112 Storytelling Via Post-Production ‡	3
TV-105 TV/Video Field Production Techniques ‡	4
TV-142 Non-Linear Video Editing and Authoring ‡.....	3
EPROD-151 Data Content Management and Implementation.....	3
EPROD-153 eProduction Practicum 1	3
CAS-127 Ethical Guidelines, Usage and Copyright	3
(or) COMART-182 Graphic Arts Business Skills	

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Field Teleprompter Operator, Field Camera Operator/Assistant, Grip, Gaffer, Data Wrangler, Production Assistant

TV/Video Studio Production Assistant

TECHNICAL DIPLOMA

Program Code: 31-701-2

Downtown Milwaukee Campus

Enter the broadcasting industry with the skills attained through this two-semester program. Students gain instruction in the basics of television and video studio production through courses taught in the Milwaukee Public Television studios. You will become familiar with the basics of studio-based production, studio lighting, studio camera operation, and general TV engineering principles. This hands-on experience will prepare you for an entry-level position in a studio environment.

Career Pathway

After earning this diploma, the credits can be applied toward completing the TV and Video Production associate degree.

Career Outlook

Studios for cable, educational or government access channels; smaller-market television stations; educational studios in high school and college facilities; and corporate video studios offer employment opportunities.

Program Learning Outcomes

Employers will expect program graduates to:

- Be technically and artistically prepared for entry-level employment in the television and video production industry
- Know the operations of television studio and control room equipment
- Utilize electronic graphics, animation and computers
- Integrate digital and high-definition standards in production
- Have skills in lighting, staging and set construction
- Demonstrate core abilities (critical thinking, communication, work habits, using technology)

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Television and Video Production, TV/Video Field Production Assistant, eProduction, Animation, Interactive Media

Start Dates: August/January

For Information

414-297-6433, matc.edu

SIXTEEN-WEEK TERMS

Credits

TV-101	TV/Video Studio Production Techniques.....	4
TV-181	Video in Society ‡	1
TV-121	TV and Video Production Workshop 1 ‡	3
TV-113	Television Lighting and Set Construction ‡.....	3
ENG-151	Communication Skills 1 ‡..... (or) ENG-201 English 1	3
TV-119	Operational Broadcast Engineering ‡	3
AUDIO-120	Audio Production for Film.....	3
TV-122	TV and Video Production Workshop 2 ‡	3
TV-123	TV and Video Production Co-op 1 ‡	3
VICOM-150	Introduction to Digital Media ‡	3
	(or) EPROD-150 Introduction to eProduction	

TOTAL CREDITS: 29

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Unity Developer

TECHNICAL DIPLOMA

Program Code: 31-153-1

Downtown Milwaukee Campus

Develop the skills necessary to learn the Unity 3D software creation tool through this two-semester program. Unity 3D is a powerful tool that is used to develop simulations, video games, training programs and educational software. It is extremely flexible and allows program deployment on personal computers, the internet, mobile devices and gaming consoles. The skills learned in this diploma will allow users to develop for a variety of platforms using the flexibility of this tool.

Career Pathway

After earning this diploma, the credits can be applied toward completing the Computer Simulation and Gaming associate degree.

Career Outlook

Unity 3D is one of the most frequently used simulation and gaming engines in the industry. Professionals who learn the fundamentals of this tool will be well prepared to develop for multiple consoles and platforms, especially personal computer, web, and mobile applications in both 2D and 3D. Employment opportunities in these areas include design, programming, animation, scripting and development.

Program Learning Outcomes

Employers will expect program graduates to:

- Understand the creation and manipulation of assets in the Unity 3D engine
- Be proficient in creating understandable and fluid GUI elements
- Have 3D math experience and understanding of transforms, coordinate systems and interpolation
- Use object-oriented principles in designing systems and scripting
- Have ability to contribute to all aspects of development on a multidisciplinary team

Start Dates: August/January

For Information

414-297-6433, matc.edu



Admission Requirements

- A high school diploma or GED
- High school-level algebra
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Computer Simulation and Gaming, Animation, Mobile Designer

SIXTEEN-WEEK TERMS

	Credits
CSG-115 CSG Production ‡	3
CSG-117 Game Logic and Problem-Solving.....	3
ITDEV-110 Introduction to Object-Oriented Programming.....	3
CSG-120 Interactive Display Production 1.....	1
CSG-121 Interactive Display Production 2.....	1
CSG-122 Interactive Display Production 3.....	1
CSG-118 Game Engine Scripting ‡	3
CSG-119 Designing Interactive Displays ‡	3
CSG-179 CSG API Programming ‡	4
ITDEV-115 Intermediate Object-Oriented Programming ‡	3
MATH-107 College Mathematics ‡	3

TOTAL CREDITS: 28

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Unity Programmer, Unity Developer, Unity Software Engineer, Unity Game Developer, Unity App Developer, Unity Web Developer

Web Designer

TECHNICAL DIPLOMA

Program Code: 31-206-1

Downtown Milwaukee Campus

To prepare for this field's ever-changing technology, students learn and apply in-depth skills in web design, design tools and web development languages. Coursework includes social media marketing, and the designing and publishing of several websites using multiple web-development languages. The abilities to work as part of a team, to work under stress and to meet deadlines will contribute to your success. A well-developed imagination, talent for visual problem-solving, normal hearing and vision also are important.



Career Pathway

After earning this diploma, the credits can be applied toward completing the Interactive Media associate degree.

Career Outlook

Demand for web designers and webmasters is growing steadily as more businesses and organizations rely on functional and flexible websites to attract and serve their customers.

Program Learning Outcomes

Employers will expect program graduates to possess the following skills:

- Web development
- Web page design
- Web page scripting
- Project planning
- Interactive interface design
- Social media marketing
- Professionalism and good communication skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Demonstration of basic computer skills in operating systems, word processing and the internet

Related Programs

Interactive Media, eBusiness Technology Analyst, IT Mobile Applications Developer, Mobile Application Designer, Mobile Designer

Start Dates: August/January

For Information

414-297-6433, matc.edu



SIXTEEN-WEEK TERMS

Credits

EBUS-118	Social Media Technologies	3
VICOM-108	Multimedia Scripting Basics	1
VICOM-123	Website Development ‡	3
VICOM-128	Web Development with HTML/CSS	3
VICOM-150	Introduction to Digital Media	3
ENG-151	Communication Skills 1 ‡	3
	(or) ENG-201 English 1	
VICOM-162	Database-Driven Web Design ‡	3
VICOM-124	Content Management Systems ‡	3
	(or) VICOM-105 Multimedia and Web Authoring	
VICOM-125	Advanced Website Development ‡	3
	(or) VICOM-163 iPhone/iPad (iOS) Application Development	
VICOM-126	Mobile Web Development ‡	3
VICOM-152	Interactive Design for Multimedia ‡	3
	(or) VICOM-164 Android Application Development	

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Possible Careers: Web Designer, Web Developer, Webmaster, Front-End Designer

Advanced Television Post-Production

CERTIFICATE

Downtown Milwaukee Campus

Gain the skills to upgrade editing techniques through time-code, computer-based edit control systems and non-linear AVID editors. Techniques and practice include split editing, list management, setting transitions, edit/review, EDL management, NLE settings, timeline manipulations, and file/media management.

Coursework is conducted in the Milwaukee Public Television production facilities for hands-on experience.

Admission Requirements

Completion of an associate degree in Television and Video Production, a bachelor's degree in the video field, or equivalent work experience as evaluated by the School of Media and Creative Arts is a requirement for admission.

Start Dates: August/January

For Information

414-297-6433, matc.edu



COURSES

		Credits
TV-112	Storytelling Via Post-Production ‡	3
PLUS 2 OF THE FOLLOWING 3-CREDIT COURSES:		6
TV-130	Introduction to Computer Editing ‡	
TV-132	Advanced Videotape Editing ‡	
TV-142	Non-Linear Video Editing and Authoring	

TOTAL CREDITS: 9

‡ Prerequisite required.

Program curriculum requirements are subject to change.

All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher. The student must initiate the request for the certificate upon completion of its requirements. This certificate program is not eligible for financial aid.

Attain the job-ready skills employers seek in high-demand and growing fields including sustainable facilities operations, advanced manufacturing, engineering, construction, horticulture, protective services, automotive servicing and truck driving.

Call 414-297-6315 for information about programs in the School of Technology and Applied Sciences.

Start Your Four-Year Degree at MATC: Associate degree program credits can be transferred to one or more four-year institutions where you can pursue a bachelor's degree. See four-year college transfer information at matc.edu.

For all degree programs, students who have not been accepted, or have not decided on a program, may begin with General Studies courses if course prerequisites have been met.

For class times and locations or to register online, visit INFOline at matc.edu.

When registering, note that some courses are now offered at the MATC Education Center at Walker's Square, 816 West National Avenue, Milwaukee.

Air Conditioning and Refrigeration Technology

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Appliance Technician

Technical Diploma, page 159

Architectural Technology

Associate in Applied Science Degree, page 160

Architectural Woodworking/Cabinetmaking

Technical Diploma, page 161

Auto Collision Repair and Finish Technician

Technical Diploma, page 162

Automotive Maintenance Technician

Technical Diploma, page 163

Automotive Technology – Comprehensive

Associate in Applied Science Degree, page 164

Aviation Technician – Airframe

Technical Diploma, page 165

Aviation Technician – Powerplant

Technical Diploma, page 166

Biomedical Electronics Technology

Associate in Applied Science Degree, page 167

Bricklaying

Technical Diploma, page 168

Carpentry

Technical Diploma, page 169

Civil Engineering Technology

Associate in Applied Science Degree, page 170

Computer Electronics Technology

Associate in Applied Science Degree, page 171

Computer Numerical Control (CNC) Machine Operator/Programmer

Technical Diploma, page 172

Criminal Justice – Law Enforcement

Associate in Applied Science Degree, page 173

Diesel and Powertrain Servicing

Technical Diploma, page 174

Electrical Power Distribution/Line Mechanic

Technical Diploma, page 175

Electricity

Technical Diploma, page 176

Electronic Engineering Technology

Associate in Applied Science Degree, page 177

Electronic Technology

Associate in Applied Science Degree, page 178

Emergency Medical Technician

Technical Diploma, page 179

Emergency Medical Technician – Advanced

Technical Diploma, page 180

Fire Protection Technician

Associate in Applied Science Degree, page 181

Individualized Technical Studies

Associate in Applied Science Degree
For details about this individualized degree, see page 63 in the School of Business.

Interior Design

Associate in Applied Science Degree, page 182

Landscape Horticulture

Associate in Applied Science Degree, page 183

Machine Tool Operations – CNC Swiss Turning

Center Setup and Operation
Technical Diploma, page 184

Machine Tool Operations – CNC Machine Setup

and Operation
Technical Diploma, page 185

Mechanical and Computer Drafting

Technical Diploma, page 186

Mechanical Design Technology

Associate in Applied Science Degree, page 187

Paramedic Technician

Technical Diploma, page 188

Power Engineering and Boiler Operator

Technical Diploma, page 189

Preparatory Plumbing

Technical Diploma, page 190

Quality Engineering Technology

Associate in Applied Science Degree, page 191

Refrigeration, Air Conditioning and Heating Service Technician

Technical Diploma, page 192

Sustainable Facilities Operations

Associate in Applied Science Degree, page 193

Technical Studies: Apprentice

Associate in Applied Science Degree, page 194

Tool and Die Making

Technical Diploma, page 195

Truck Driving

Technical Diploma, page 196

Welding

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CERTIFICATE PROGRAMS, pages 199-201

3D Solid Modeling

Arboriculture

Basic Electronics – Computer Multimedia Lab

Basic Electronics – Core Curriculum

Boiler Operator

Electrical Construction

Energy Engineering Technology

Energy Modeling

Greenhouse Plant Production

Industrial Electronics and Controls

Land Surveying

Landscape Design Technology – CAD

Law Enforcement

Lean

Metallurgical Technician

Native Landscape Plants

Plant Health Care

Six Sigma Black Belt

Six Sigma Green Belt

Sustainable Facilities Operations

Air Conditioning and Refrigeration Technology

ASSOCIATE DEGREE

Program Code: 10-601-1

Oak Creek Campus

(Official WTCS title: Air Conditioning, Heating and Refrigeration Technology)

This Associate in Applied Science degree program prepares you for the growing opportunities in sales, system design and layout, and supervision of equipment installation, maintenance and servicing. Students receive the necessary background in mathematics, drafting, electricity and thermodynamics. You may take portions of the technical course HVAC2-116 Refrigeration 2 off campus for co-op credit if employment opportunities arise and the employer and instructor agree. You should have a high mechanical aptitude and be able to work in enclosed areas. People skills, manual dexterity, and the ability to analyze equipment operation are also important. High school-level courses in mechanical drafting and electricity are desirable.

Career Outlook

There is steady demand for air conditioning and refrigeration systems, and trained technicians are sought to operate and maintain these systems. Graduates also may work as sales representatives for air conditioning and refrigeration equipment vendors. As a graduate of this program, you may wish to pursue a four-year degree in HVAC engineering, or become an apprentice in the refrigeration or HVAC fields.

Program Learning Outcomes

Employers expect graduates to:

- Read construction and mechanical drawings
- Know about air conditioning system operations
- Understand pneumatic and electrical control systems
- Troubleshoot refrigeration and air conditioning systems
- Complete layout drawings for HVAC systems

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- One year of high school-level algebra

Related Programs

Appliance Technician, Preparatory Plumbing, Refrigeration, Air Conditioning and Heating Service Technician

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) HVAC2-109	Introduction to the HVAC Industry	1
(1) HVAC2-110	Air Conditioning Fundamentals.....	3
(1) HVAC2-113	Electrical Fundamentals.....	3
(1) HVAC2-132	Architectural and Mechanical Fundamentals	4
(2) HVAC2-114	Electrical Controls and Systems ‡	4
(2) HVAC2-115	Refrigeration 1 ‡	4
(2) HVAC2-120	Heating Systems 1 ‡	4
(3) HVAC2-116	Refrigeration 2 ‡	4
(3) HVAC2-121	Heating Systems 2 ‡	4
(3) HVAC2-146	Digital Energy Management Systems ‡.....	2
(3) HVAC2-148	Heat Pumps ‡	3
(4) HVAC2-125	Control Application and Circuits ‡	4
(4) HVAC2-126	Air Conditioning Systems ‡.....	3
(4) HVAC2-144	Servicing and Troubleshooting Refrigeration and Air Conditioning ‡	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-113	College Technical Mathematics 1A ‡	3
	(or) Any 200-series MATH course	
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

MATH-114	College Technical Mathematics 1B ‡
PHYED-210	An Active Approach to Wellness and Fitness
WELDT-101	Welding Theory 1

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Air Conditioning Technician, Refrigeration Technician Sales, Sales Representative, System Design Technician, System Designer

Appliance Technician

TECHNICAL DIPLOMA

Program Code: 31-445-1

Downtown Milwaukee Campus, MATC Education Center at Walker's Square

As household electrical appliances become more complex, a greater degree of knowledge is required to diagnose and service them. Appliance Technician is a two-semester program that combines coursework with hands-on lab experience to acquaint you with the fundamental knowledge and skills needed.

Ability to keep accurate and legible records is an essential component of the program and future employment. Good manual dexterity, a high mechanical aptitude and an inquisitive, analytical mind also are important. You will need to be able to do some bending and lifting. Also necessary in the workplace are a valid driver's license, ability to be insured, and courteous behavior and good grooming.

Career Outlook

The need for trained service technicians qualified to maintain appliances has increased. Appliance technicians install, service and repair automatic washers, dryers, ranges, refrigerators, dishwashers, compactors and other major appliances. Related jobs are parts person, salesperson, dispatcher and field service representative. It is possible to advance to a service manager position, as well as operate your own business.

Program Learning Outcomes

- Employers expect graduates to demonstrate:
- Sound understanding of basic electronics and the functions of typical electrical hardware such as thermostats, relays, switches, circuitry
 - Electromechanical knowledge and skills to diagnose and correct appliance difficulties
 - Oral and written communication skills
 - Good math skills

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Air Conditioning and Refrigeration Technology,
Preparatory Plumbing

Start Dates: August/January

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

	Credits
APPSVC-308 Electricity for Appliance Servicing ‡	4
APPSVC-310 Laundry Equipment ‡	5
APPSVC-316 Kitchen Equipment 1 ‡	4
APPSVC-329 Related Business for Appliance Servicing ‡	1
APPSVC-324 Refrigeration 1 (Theory and Techniques) ‡	4
APPSVC-340 Kitchen Equipment 2 ‡	4
APPSVC-342 Refrigeration 2 (Servicing) ‡	5
SOCSCI-330 Applied Economics and Human Relations	1
ENG-345 Communications 1	1

TOTAL CREDITS: 29

‡ Prerequisite required.
Program curriculum requirements are subject to change.
Some classes offered at MATC Education Center at Walker's Square, 816 West National Avenue, Milwaukee.



Possible Careers: Appliance Repair, Appliance Servicing Technician, Service Manager, Service Technician

Architectural Technology

ASSOCIATE DEGREE

Program Code: 10-614-1

Downtown Milwaukee Campus

(Official WTCS title: Architectural)

This Associate in Applied Science degree program prepares students for work in architectural and construction-related fields; the primary emphasis is developing entry-level employment skills. Students are introduced to architectural drafting through sketching techniques, and then receive extensive training in computer-aided drafting and Building Information Modeling (BIM) using AutoCAD and REVIT (BIM) software. Construction materials and methods, architectural practices, building codes, and mechanical and environmental systems also are studied. Important to your success are drawing and visualization abilities, strong math skills, good writing and oral skills, plus psychomotor skills.

For information about MATC's articulation agreements with four-year universities related to this program, meet with your program advisor.

Career Outlook

Technicians work with architects, engineers, contractors, designers, and building material manufacturers and suppliers. Job duties may include basic drafting, detailing, building information modeling, estimating, technical report writing, specification research and development, and field inspection.

Program Learning Outcomes

- Use computer-aided drafting and Building Information Modeling (BIM) software
- Demonstrate knowledge of construction principles, techniques and building codes
- Demonstrate knowledge of mechanical, electrical and plumbing systems in buildings
- Demonstrate knowledge of principles of sustainability and green architecture
- Develop a set of construction documents including site plans, floor plans, elevations and details for design based on a building design program developed with a client
- Show an understanding of the influence of architectural history on buildings today

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- One year of high school-level algebra and geometry

Start Date: August

For Information

414-297-6315, matc.edu

TECHNICAL STUDIES

Credits

(1) ARCHT-101	Architectural Theory and Drawing 1	4
(1) ARCHT-105	Architectural History	2
(1) ARCHT-110	Computer Applications for Architecture	2
(1) ARCHT-121	Architectural Materials and Methods 1	2
(2) ARCHT-102	Architectural Theory and CADD 2 ‡	5
(2) ARCHT-120	Structural Systems and Components ‡	3
(2) ARCHT-122	Architectural Materials and Methods 2 ‡	3
(3) ARCHT-103	Architectural Theory and CADD 3 ‡	5
(3) ARCHT-131	Mechanical and Environmental Systems 1 ‡	2
(4) ARCHT-104	Architectural Theory and CADD 4 ‡	5
(4) ARCHT-132	Mechanical and Environmental Systems 2 ‡	2
(4) ARCHT-141	Architectural Practices and Procedures ‡	2
(4) CIVIL-132	Building Estimating	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Mathematics 1 ‡	5
MATH-116	College Technical Mathematics 2 ‡	4
NATSCI-137	Comprehensive Technical Physics	4
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

ELECTIVES: THREE CREDITS NEEDED 3

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.



Possible Careers: Architectural Designer, CADD Drafter, Detailer and Modeler, Estimator, Field Inspector, Construction and Building Inspector

Architectural Woodworking/Cabinetmaking

TECHNICAL DIPLOMA

Program Code: 31-409-1

Oak Creek Campus

Attain the skills needed to work in cabinet shops, millwork shops, furniture factories, display shops and maintenance shops through this two-semester program. The curriculum includes how to read blueprints, make detailed drawings, and use machinery commonly used in the woodworking industry. High school woodworking courses will prove highly beneficial. Other helpful courses are mathematics and mechanical or architectural drawing.

To be successful in the program, you will need good eye-hand coordination. You will be required to use powerful machines and you must be able to follow verbal and written instructions. Reading ability, good spatial visualization and manual dexterity are also important to your success.

Career Outlook

The employment outlook for cabinetmakers, machine operators and repair people is favorable. There are many changes taking place in the woodworking industry, and current training is a marketable asset.

Program Learning Outcomes

Employers expect graduates to:

- Read blueprints
- Identify materials
- Set up machinery
- Operate saws, joiners, planers, shapers, sanders and other woodworking machinery
- Assemble parts

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Architectural Technology, Carpentry, Electricity, Mechanical Design Technology

Start Date: August

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

Credits

CABMIL-300	Machine Maintenance/Jigs and Fixtures ‡	2
CABMIL-303	Woodworking 1	5
CABMIL-304	Woodworking Fundamentals ‡	3
CABMIL-355	Materials and Construction	1
CABMIL-385	Cabinet Detailing ‡	2
CARP-380	Arithmetic for Carpenters ‡	1
CIVIL-108	Construction Computer Applications	1
SOCSCI-330	Applied Economics and Human Relations	1
CABMIL-305	Woodworking 2 ‡	5
CABMIL-306	Advanced Woodworking ‡	3
CABMIL-383	Quantity Survey 1 ‡	2
CABMIL-386	Cabinet Layout ‡	2
ENG-345	Communications 1	1
MCDESG-120	Basic AutoCAD ‡	1
PAINT-353	Wood Finishing ‡	1

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Auto Collision Repair and Finish Technician

TECHNICAL DIPLOMA **Program Code: 31-405-1** Oak Creek Campus

This two-semester program will prepare you for employment with automobile dealerships, independent body shops, specialized shops, franchise repair garages and manufacturing jobs requiring spray painting ability. With instructor's consent, portions of this program may be taken off campus for co-op credit. Important to your success in the program are manual dexterity and the ability to distinguish colors. After admission to the program, you will need to have an automotive repair tool set.

Career Outlook

Based on the high number of passenger cars and trucks being produced, the need for automobile body technicians is at a high level. Employment prospects are promising for technicians trained in the complex design of unibody construction.

Program Learning Outcomes

Employers expect graduates to:

- Use hand tools, power tools and shop equipment properly, with attention to safety measures
- Analyze unibody damage
- Blend and match various types of paints
- Interpret manufacturers' manuals as well as aftermarket publications
- Repair and paint damaged vehicles
- Repair and/or replace damaged panels on vehicles

Admission Requirements

- Demonstration of proficiency in basic skills through a course placement assessment

A high school diploma or GED is recommended.

Related Programs

Automotive Maintenance Technician, Automotive Technology, Diesel and Powertrain Servicing

SIXTEEN-WEEK TERMS		Credits
AUTOBY-300	Introduction to Auto Body Fundamentals.....	3
AUTOBY-301	Automobile Sheet Metal Correction	1
AUTOBY-302	Automobile Panel Straightening.....	2
AUTOBY-303	Body Servicing Equipment and Supplies.....	1
AUTOBY-304	Basic Auto Mechanical Systems.....	1
AUTOBY-305	Auto Body 1 ‡.....	5
SOCSCI-330	Applied Economics and Human Relations	1
WELD-340	Welding for Auto Body Technicians	2
AUTOBY-310	Automobile Body Fundamentals ‡	4
AUTOBY-311	Automobile Frame Straightening ‡	3
AUTOBY-312	Electrical Servicing for Auto Body Repairing	1
AUTOBY-313	Surface Preparation and Color Matching ‡	1
AUTOBY-314	Front-End Alignment	1
AUTOBY-315	Auto Body 2 ‡	5
ENG-345	Communications 1	1

TOTAL CREDITS: 32

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Start Dates: August/January

For Information
414-297-6315, matc.edu



Possible Careers: Assistant Body Shop Manager, Body Repairer, Estimator, Insurance Company Appraiser, Painter

Automotive Maintenance Technician

TECHNICAL DIPLOMA **Program Code: 31-404-3** Oak Creek Campus

This one-year program trains students to service and repair the drivetrain, electrical and mechanical systems of automobiles. To be successful, you will need a high degree of manual dexterity and the ability to interpret drawings found in service manuals. After admission to the program, students need to have an automotive repair tool set.

With an employer's and instructor's consent, portions of this program may be taken off campus for co-op credit.

The program is accredited by National Automotive Technicians Education Foundation.

Career Outlook

Graduates typically attain positions with duties such as electrical systems repair, wheel alignment and balancing, engine repair and tuneup, automatic and manual transmission repair, and new car predelivery inspection.

Program Learning Outcomes

- Properly use hand and power tools, and shop equipment
- Locate technical data and service repair information
- Look up specifications in shop manuals
- Service and repair the following systems: brake, steering and suspension, heating, cooling, and air conditioning, exhaust, emission control, fuel delivery, ignition
- Provide minor service and repair on manual and automatic transmissions and transaxles, differentials, driveshafts and axle half shafts, and engines
- Service and repair (with an exposure to overhaul techniques) manual and automatic transmissions and transaxles, differentials, driveshafts and axle half shafts, engines, and electrical components
- Perform routine service, such as lubrication, oil and filter change, tire balance and rotation, engine tuneup, and accessory service
- Develop a working rapport with other employees
- Exhibit the desire to remain current in the field

Admission Requirements

- Course placement assessment of basic skills proficiency
- A high school diploma or GED is recommended.

Related Programs

Automotive Technology, Diesel and Powertrain Servicing

Start Dates: August/January

For Information

414-297-6315, matc.edu

EIGHT-WEEK TERMS		Credits
AUT01-302	Powertrain Maintenance and Light Repair Fundamentals	2
AUT01-304	Powertrain Maintenance and Light Repair Lab ‡	4
AUT01-306	Heating and Air Conditioning Fundamentals	2
SOCSCI-330	Applied Economics and Human Relations	1
AUT01-308	Brakes and Steering Suspension Fundamentals	2
AUT01-310	Brakes and Steering Suspension Lab 1 ‡	4
AUT01-312	Brakes and Steering Suspension Lab 2 ‡	2
AUT01-314	Electrical and Electronic Fundamentals	2
AUT01-316	Electrical and Electronic Lab ‡	4
AUT01-318	Auto Instrumentation and Accessories ‡	2
ENG-345	Communications 1	1
AUT01-322	Engine Control Systems 1 Fundamentals ‡	2
AUT01-324	Engine Control Systems 1 Lab ‡	4
AUT01-326	Engine Control Systems 2 Fundamentals/Lab ‡	2

TOTAL CREDITS: 34

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Automotive Technology – Comprehensive

ASSOCIATE DEGREE
Program Code: 10-602-6

Mequon Campus

The program consists of four, two-year Associate in Applied Science degree programs structured to prepare students to perform bumper-to-bumper diagnostics, repairs and preventive maintenance on automobiles and light trucks. The Automotive Technology programs are: Mopar CAP (College Automotive Program; formerly Chrysler CAP), CART (Comprehensive Automotive Repair Technology), Ford ASSET (Automotive Student Service Educational Training) and Honda PACT (Professional Automotive Career Training). Instruction alternates between classroom and intern work experience.

Important skills necessary for success are the abilities to read technical manuals and solve basic math problems, along with a good mechanical aptitude and manual dexterity. The program is accredited by National Automotive Technicians Education Foundation.

Career Outlook

The demand for trained automotive technicians is high. Opportunities exist with dealerships, mass merchandisers, service stations, as well as owning your own business.

Program Learning Outcomes

- Use hand and power tools and equipment safely
- Use service manuals and other service and repair information
- Apply electrical and electronic skills in diagnosing malfunctions of electrical/electronic components
- Service, troubleshoot and repair the following auto systems: brakes, cooling, exhaust, steering, suspension
- Service, troubleshoot, repair, overhaul, or rebuild transmissions, transaxles, drivelines and rear axle assemblies, engines and other components
- Demonstrate customer service and communication skills

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- A dealership sponsor is required to provide internship opportunities as a condition for admission. Program advisors will help you locate a sponsoring dealership once the initial academic testing is completed.

Related Programs

Auto Collision Repair and Finish Technician, Automotive Maintenance Technician, Diesel and Powertrain Servicing

Start Dates: August/October

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

	Credits
(1) AUT02-150 Automotive Fundamentals ‡	2
(1) AUT02-151 Electrical Systems and Power Accessories	4
(1) AUT02-164 Automotive Internship 1	1
(2) AUT02-152 Heating and Air Conditioning	2
(2) AUT02-153 Alignment, Suspension and Steering	3
(2) AUT02-154 Fuel Management 1	2
(2) AUT02-165 Automotive Internship 2	1
(S) AUT02-155 Fuel Management 2 ‡	4
(S) AUT02-157 Engine Concepts	4
(3) AUT02-156 Fuel Management 3 ‡	4
(3) AUT02-160 Automotive Accessories	4
(4) AUT02-158 Transmissions, Transaxles and Drivelines	4
(4) AUT02-159 Automotive Brakes	4
(S) AUT02-166 Automotive Internship 3	1

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-123 Math with Business Applications ‡	3
(or) Any 200-series MATH course	
NATSCI-169 Energy in Nature, Technology and Society	3
(or) Any 200-series NATSCI course	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED

AUT02-167 Automotive Internship 4	
AUT02-168 Automotive Internship 5	
AUT02-169 Automotive Internship 6	
PHYED-210 An Active Approach to Wellness and Fitness	
WELDT-101 Welding Theory 1	

TOTAL CREDITS: 67

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students. S = Summer.

Possible Careers: Automotive Technician, Engine Repair Technician, Automotive Heating and Air Conditioning Technician, Transmission Technician

Aviation Technician (Airframe)

TECHNICAL DIPLOMA

Program Code: 31-402-2

MATC Aviation Center/Oak Creek Campus

This program is governed by the Federal Aviation Administration. Students will become qualified to maintain aircraft electrical, instrument and power control systems. You are required to attend a minimum of 400 hours of the general Aviation Technician component (offered each fall semester) prior to enrolling in this technical diploma program. Students must maintain a 2.0 grade-point average in the general component to be eligible for the Airframe or Powerplant programs. To successfully complete either program, you must attend 750 hours of the respective section, and you are required to pay for any missed class time. You must have a high mechanical aptitude, and the ability to remain organized and meticulous under deadline pressure.

Aviation technicians are licensed by the Federal Aviation Administration. Following graduation, you will be eligible to take the FAA-administered licensing exam, which includes written, practical and oral examinations in the general, powerplant, and airframe subject areas. FAA regulations require you to take the practical examination within two years after successful completion of the written portions of the examination. Many employers require drug tests and a complete physical examination.

Career Outlook

Skilled aviation mechanics with versatile knowledge are in high demand and work for airlines, corporations and commuter lines. Completing the Powerplant and Airframe Aviation Technician diplomas boosts earnings potential.

Program Learning Outcomes

Employers expect graduates to:

- Read and comprehend aircraft maintenance manuals
- Pinpoint aircraft malfunctions using schematics and diagnostic equipment
- Repair airframe structures and return aircrafts to service

Admission Requirements

- Completion of the Aviation Technician – General Component or instructor approval
- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Background in mathematics and the physical sciences is recommended.

Start Dates: August/January

For Information

414-297-6315, matc.edu



GENERAL COMPONENT

SIXTEEN-WEEK TERM

Credits

AVITEC-323	Aircraft Ground Operation and Servicing	3
AVITEC-380	Basic Physics.....	1
AVITEC-383	Aircraft Maintenance Publications, Records and Mechanics Regulations	1
AVITEC-393	Mathematics for Aviation Technicians.....	2
AVITEC-381	Basic Electricity	3
AVITEC-382	Aircraft Materials and Their Inspection	3
ENG-345	Communications 1	1
SOCSCI-330	Applied Economics and Human Relations	1

TOTAL CREDITS: 15

AVIATION TECHNICIAN – AIRFRAME

SIXTEEN-WEEK TERM

Credits

AVITEC-320	Aircraft Electrical Systems.....	4
AVITEC-368	Aircraft Structures.....	3
AVITEC-370	Aircraft Instrument, Control and Warning Systems 1.....	5
AVITEC-372	Hydraulic and Pneumatic Power Systems.....	4

EIGHT-WEEK TERM

AVITEC-340	Aircraft Welding.....	1
AVITEC-367	Composite Structures	3
AVITEC-371	Aircraft Instrument, Control and Warning Systems 2 +.....	1
AVITEC-376	Airframe Maintenance	4

TOTAL CREDITS: 25

Prerequisite required.

Program curriculum requirements are subject to change.

*The MATC Aviation Center is at 422 East College Avenue,
north of the Oak Creek Campus.*

Possible Careers: Aviation Technician, Airframe Technician, Aircraft Electrical Technician, Environmental Systems Technician, Hydraulics Technician

Aviation Technician (Powerplant)

TECHNICAL DIPLOMA

Program Code: 31-402-3

MATC Aviation Center/Oak Creek Campus

This program is governed by the Federal Aviation Administration. A specialized training program, it concentrates on aircraft engine and propeller systems. You are required to attend a minimum of 400 hours of the general Aviation Technician component (offered each fall semester) prior to enrolling in this technical diploma program. Students must maintain a 2.0 grade-point average in the general component to be eligible for the Airframe or Powerplant programs. To successfully complete either program, you must attend 750 hours of the respective section, and you are required to pay for any missed class time. You must have a high mechanical aptitude, and the ability to remain organized and meticulous under deadline pressure.

Aviation technicians are licensed by the Federal Aviation Administration. Following graduation, you will be eligible to take the FAA-administered licensing exam, which includes written, practical and oral examinations in the general, powerplant, and airframe subject areas. FAA regulations require you to take the practical examination within two years after successful completion of the written portions of the examination. Many employers require drug tests and a complete physical examination.

Career Outlook

Aircraft propulsion mechanics remain in high demand and work for airlines, corporations and commuter lines. Completing both the Powerplant and Airframe Aviation Technician diplomas boost earnings considerably.

Program Learning Outcomes

Employers expect graduates to:

- Read and comprehend aircraft maintenance manuals
- Analyze and repair powerplant malfunctions
- Maintain aircraft powerplant subsystems and determine their airworthiness

Admission Requirements

- Completion of the Aviation Technician – General Component or instructor approval
- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Background in mathematics and the physical sciences is recommended.

Start Dates: August/January

For Information

414-297-6315, matc.edu



GENERAL COMPONENT

SIXTEEN-WEEK TERM

	Credits
AVITEC-323 Aircraft Ground Operation and Servicing	3
AVITEC-380 Basic Physics.....	1
AVITEC-383 Aircraft Maintenance Publications, Records and Mechanics Regulations	1
AVITEC-393 Mathematics for Aviation Technicians.....	2
AVITEC-381 Basic Electricity	3
AVITEC-382 Aircraft Materials and Their Inspection	3
ENG-345 Communications 1	1
SOCSCI-330 Applied Economics and Human Relations	1

TOTAL CREDITS: 15

AVIATION TECHNICIAN – POWERPLANT

EIGHT-WEEK TERM

	Credits
AVITEC-304 Aircraft Induction and Supercharging Systems	1
AVITEC-306 Engine Lubricating Systems	2
AVITEC-315 Aircraft Reciprocating Engines 1	2
AVITEC-318 Aircraft Gas Turbine Engines 1.....	2
AVITEC-360 Propeller Systems.....	2

SIXTEEN-WEEK TERM

AVITEC-302 Engine Fuel Metering Systems	2
AVITEC-303 Powerplant Electrical and Instrument Systems.....	5
AVITEC-316 Aircraft Reciprocating Engines 2 ‡	4
AVITEC-319 Aircraft Gas Turbine Engines 2 ‡	5

TOTAL CREDITS: 25

‡ Prerequisite required.

Program curriculum requirements are subject to change.

The MATC Aviation Center is at 422 East College Avenue, north of the Oak Creek Campus.

Possible Careers: Aviation Technician, Airframe Technician, Aircraft Electrical Technician, Environmental Systems Technician, Hydraulics Technician

Biomedical Electronics Technology

ASSOCIATE DEGREE

Program Code: 10-605-6

Downtown Milwaukee Campus

(Official WTCS title: Bio-Medical Electronics)

Prepare for a technical career with an employer that uses, repairs or manufactures biomedical electronic equipment, such as bedside monitor systems and EKG machines, through this Associate in Applied Science degree program. A cooperative education internship is required; when you register for ELCTEC-137 and ELCTEC-138 Biomedical Electronics Technician Internship 1 and 2, you will receive practical experience in electronics through on-the-job training. Normal vision, good manual dexterity, and the ability to work closely with others on a project team are important for success in the program.

Career Outlook

Reliance on electronics to test and monitor patients in healthcare facilities has created a need for biomedical electronics technicians in the healthcare and the electronic equipment industries. Program graduates hired by clinics and hospitals typically install, test, calibrate and repair biomedical electronic equipment. Manufacturers employ technicians to build and final-test equipment. Contract service firms and equipment distributors also hire.

Program Learning Outcomes

- Apply biomedical electronics technology theory and skills
- Apply critical thinking skills necessary to analyze, install and maintain biomedical electronic systems and equipment
- Troubleshoot and repair malfunctioning electronic circuits, systems and networks
- Write comprehensive technical reports

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra or the equivalent
- Course placement assessment of basic skills proficiency
- Good health as evidenced by a medical examination
- Documentation of compliance with Wisconsin's Caregiver Law (Criminal background check)
- Proper immunizations
- 10-panel drug test

Related Programs

Computer Electronics Technology, Electronic Technology

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

	Credits
(1) ELCTEC-110 DC and AC Electronics 1 ‡	4
(1) ELCTEC-130 Digital Electronics ‡	3
(1) ELCTEC-170 Computer Systems ‡	3
(2) ELCTEC-111 DC and AC Electronics 2 ‡	3
(2) ELCTEC-120 Electronic Devices and Circuits ‡	4
(3) ELCTEC-134 Biomedical Instrumentation ‡	4
(3) ELCTEC-137 Biomedical Electronics Technician Internship 1 ‡	2
(3) ELCTEC-140 Microprocessors ‡	3
(3) ELCTEC-150 Data Communications and Networking ‡	3
(4) ELCTEC-133 Medical Imaging Equipment ‡	4
(4) ELCTEC-138 Biomedical Electronics Technician Internship 2 ‡	2
(4) ELCTEC-176 Computer Networks ‡	3

GENERAL STUDIES

ENG-151 Communication Skills 1 ‡	3
(& ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115 College Technical Mathematics 1 ‡	5
(or) MATH-113 and MATH-114	
MATH-116 College Technical Mathematics 2 ‡	4
NATSCI-137 Comprehensive Technical Physics ‡	4
(or) NATSCI-221 College Physics 1 ‡	
NATSCI-177 General Anatomy and Physiology ‡	4
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ELCTEC-139 Advanced Biomedical Electronics ‡	
ITNET-101 Network Communications (Network +)	
ITNET-131 Introduction to Networks (Cisco 1)	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Biomedical Electronic Technician, Biomedical Equipment or Instrumentation Technician, Clinical Engineering Technician

Bricklaying

TECHNICAL DIPLOMA

Program Code: 30-408-2

MATC Education Center at Walker's Square

Developed with the assistance of local tradespeople and contractors, this program is designed to prepare you to enter the masonry trade. The courses and skills taught are directed at fulfilling the entry-level requirements of masonry contractors. Students who qualify for employment are available for work during the prime construction season. Important factors for success in the program are physical strength, manual dexterity, and the ability to work well with others.

Career Outlook

Increased construction of residential, commercial and industrial buildings has resulted in a need for bricklayers. Graduates enter employment as a starting bricklayer. Advancement to journey-level worker, foreman and superintendent are available with experience.

Program Learning Outcomes

Employers expect graduates to possess:

- Ability to lay brick and block in an efficient and effective manner
- Ability to read blueprints
- Job-related skills
- Knowledge of residential, commercial and industrial methods of construction

Admission Requirements

- High school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Architectural Woodworking/Cabinetmaking, Carpentry, Preparatory Plumbing

SIXTEEN-WEEK TERMS

Credits

MASON-300	Fundamental Bricklaying	5
MASON-303	Advanced Bricklaying ‡	5
MASON-308	Job Safety and Layout	1
MASON-356	Methods 1 – Fundamentals ‡	2
MASON-380	Mathematics for Bricklayers 1	1
SOCS-330	Applied Economics and Human Relations	1
MASON-302	OSHA/First Aid for Masons	1

TOTAL CREDITS: 16

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Bricklaying classes held at MATC Education Center at Walker's Square, 816 West National Avenue, Milwaukee.

Start Dates: August/January

For Information

414-297-6315, matc.edu



Possible Careers: Apprentice Bricklayer, Foreman, Journey-Level Worker, Superintendent

Carpentry

TECHNICAL DIPLOMA

Program Code: 31-410-1

Downtown Milwaukee and Oak Creek campuses

This two-semester program will prepare you for employment in the construction of residential and commercial structures. The curriculum consists of reading construction drawings and learning about the materials commonly used by carpenters. Practical experience is given in the use of power and hand tools. To be successful in the program, you will need to be able to work on ladders and scaffolds, and work outdoors in all kinds of weather. Manual dexterity is a must.

Career Outlook

As residential and commercial structures continue to be built and remodeled, there is a need for carpenters. Graduates of the program may obtain employment as carpenters, carpenter apprentices, rough carpenters, form carpenters and finish carpenters.

Program Learning Outcomes

Employers expect graduates to:

- Read blueprints and follow directions
- Identify construction materials and use those materials properly
- Climb ladders and work on scaffolds
- Use power saws and other construction equipment
- Assemble materials according to layout markings

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

High school-level drafting and construction courses are desirable.

Related Programs

Architectural Woodworking/Cabinetmaking, Bricklaying, Preparatory Plumbing

SIXTEEN-WEEK TERMS

Credits

CABMIL-340	Millwork for Carpenters ‡.....	2
CARP-301	House Framing ‡	5
CARP-302	OSHA/First Aid ‡.....	1
CARP-304	House Framing Fundamentals ‡.....	3
CARP-351	Building Materials ‡	1
CARP-380	Arithmetic for Carpenters ‡.....	1
CARP-385	Blueprint Reading 1 ‡.....	2
SOCSCI-330	Applied Economics and Human Relations	1
CABMIL-341	Millwork Techniques ‡.....	2
CARP-303	Roof Framing.....	5
CARP-306	Exterior and Interior Finishing ‡.....	5
CARP-383	Quantity Survey ‡.....	2
CARP-387	Commercial Blueprint Reading ‡.....	1
ENG-345	Communications 1	1

TOTAL CREDITS: 32

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Start Date: August

For Information

414-297-6315, matc.edu



Possible Careers: Carpenter, Carpenter Apprentice, Finish Carpenter, Form Carpenter

Civil Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-607-1

Downtown Milwaukee Campus

This Associate in Applied Science degree program prepares engineering technicians to assist civil engineers in planning, designing, scheduling, estimating, surveying and inspecting construction projects, such as highways, bridges, buildings, water systems and land development. Also, specific elective surveying courses provide the student with an option for a career in land surveying. This program is approved by the Land Surveyor section of the Wisconsin Examining Board of Architects, Professional Engineers, Designers and Land Surveyors. During the course of the program, students have the opportunity to take the examination for the Highway Technician Certification PCC Tech Level 1, as well as the Certified Survey Technician Level 1 exam. Program graduates are eligible to take additional certification exams. Graduates can also become licensed as registered land surveyors after meeting Wisconsin registration requirements.

Career Outlook

Civil engineering technicians and surveying technicians are needed in all project development phases. Employers include municipal engineering departments, civil engineering consulting firms, structural design firms, land surveying companies, highway departments, construction companies and public utilities.

Program Learning Outcomes

- Utilize critical thinking skills to solve technical problems
- Perform basic surveying
- Exhibit drafting and CAD skills
- Demonstrate technical competence with surveying and civil engineering technology equipment
- Communicate engineering and technical information using appropriate technical language
- Apply analytical mathematics and graphical knowledge and skills to the solution of engineering problems
- Work independently and as a member of a design team

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- One year of high school-level algebra

Related Programs

Architectural Technology, Mechanical Design Technology

Start Date: August

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) CIVIL-101	Civil Engineering Drawing.....	2
(1) CIVIL-105	Computer Applications	2
(1) CIVIL-135	Public Works Engineering and Estimating	3
(1) CIVIL-155	Surveying 1	2
(1) CIVIL-102	Introduction to AutoCAD.....	2
(2) CIVIL-147	Soils and Materials Testing ‡.....	3
(2) CIVIL-156	Surveying 2 ‡	2
(2) CIVIL-106	Intermediate AutoCAD ‡	2
(3) CIVIL-110	Introduction to Civil 3D	2
(3) CIVIL-141	Statics and Strength of Materials ‡	4
(3) CIVIL-157	Route and Highway Surveying ‡	3
(4) CIVIL-142	Structures ‡.....	3
(4) CIVIL-148	Structural Detailing ‡.....	3
(4) CIVIL-158	Land Surveying ‡	2
(4) CIVIL-170	Sewer and Water Systems ‡	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Mathematics 1 ‡	5
	(or) MATH-201 College Algebra	
MATH-116	College Technical Mathematics 2 ‡	4
	(or) MATH-202 Trigonometry	
NATSCI-137	Comprehensive Technical Physics	4
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED

CIVIL-160	Legal Elements of Land Surveying ‡
CIVIL-161	Boundary Location ‡
ARCHT-150	Introduction to REVIT

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Civil Engineering Technician, Construction Materials Testing, Drafter, Estimator, Land Surveyor, Surveying Technician

Computer Electronics Technology

ASSOCIATE DEGREE

Program Code: 10-605-3

Downtown Milwaukee Campus

(Official WTCS title: Electronics – Computer)

To prepare for a technical career in the computer field, you will learn to operate, install, configure, upgrade and maintain computer and network hardware and software through this Associate in Applied Science degree program. You also will develop software programs using the most popular operating systems (Windows, Linux) and programming languages (C++, MASM—the Intel processor assembly language). This program is designed to provide hands-on learning experiences using current, up-to-date equipment. Manual dexterity and good observation skills are important for success. When employment opportunities arise, and with the employer's and instructor's consent, ELCTEC-100 Electronics Co-Op may be taken off campus for co-op credit.

Career Outlook

Extensive opportunities are available for graduates who can skillfully perform installation, configuration, upgrading and maintenance of computer and network systems, and who can develop technical software.

Program Learning Outcomes

- Demonstrate theoretical knowledge and practical skills to install, upgrade, maintain and repair computer systems, networks and supporting infrastructures
- Demonstrate theoretical knowledge and critical thinking skills to analyze and troubleshoot failing computer systems, networks and supporting infrastructures
- Demonstrate the skills to repair failing computer systems, networks and supporting infrastructures
- Demonstrate oral and written communication skills to present oneself to prospective employers

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Demonstration of proficiency in basic skills through course placement assessment

Keyboarding skills will prove helpful.

Related Programs

Biomedical Electronics Technology, Electronic Engineering Technology, Electronic Technology

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

	Credits
(1) ELCTEC-110 DC and AC Electronics 1 ‡	4
(1) ELCTEC-130 Digital Electronics ‡	3
(1) ELCTEC-170 Computer Systems ‡	3
(2) ELCTEC-111 DC and AC Electronics 2 ‡	3
(2) ELCTEC-120 Electronic Devices and Circuits ‡	4
(2) ELCTEC-140 Microprocessors ‡	3
(2) ELCTEC-186 Fabrication Techniques ‡	1
(3) ELCTEC-150 Data Communications and Networking ‡	3
(3) ELCTEC-173 Computing With C ‡	3
(3) ELCTEC-174 Hardware Systems ‡	3
(3) ELCTEC-178 Software Systems ‡	3
(4) ELCTEC-172 Input/Output Programming ‡	3
(4) ELCTEC-176 Computer Networks ‡	3
(4) ELCTEC-179 Advanced Computer Systems ‡	3

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡ (or) ENG-201 and any 200-series ENG or SPEECH course	3
MATH-115	College Technical Mathematics 1 ‡ (or) MATH-113 and MATH-114	5
MATH-116	College Technical Mathematics 2 ‡	4
NATSCI-137	Comprehensive Technical Physics ‡ (or) NATSCI-221 College Physics 1 ‡	4
PSYCH-199	Psychology of Human Relations (or) Any 200-series PSYCH course	3
SOCSCI-197	Contemporary American Society (or) Any 200-series HIST or SOCSCI course	3

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

ELCTEC-100	Electronics Co-Op ‡
ELCTEC-121	Advanced Electronic Devices and Circuits ‡
ELCTEC-131	Advanced Digital Electronics ‡

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Computer Electronics Technician, Computer Network Technician, Computer Systems Technician, Installation Technician, PC Specialist

Computer Numerical Control (CNC) Machine Operator/Programmer

TECHNICAL DIPLOMA

Program Code: 31-444-1

Oak Creek Campus

To prepare you for employment as a CNC machine operator and programmer, MATC's equipment includes six industrial-based CNC machining centers and turning centers, and CAD/CAM workstations. Students gain hands-on experience in all phases of programming and operations. High mechanical aptitude, problem-solving skills, and keen spatial and visual abilities are important for your success in the program.

Career Outlook

Large and small manufacturers need CNC machine operators/programmers. Due to the high number of industrial companies in southeastern Wisconsin, there is a shortage of skilled people. Job prospects are especially positive for trained CNC programmers. Duties typically available to program graduates include developing and preparing numerically controlled programs, assisting in the development of the operational process plan for products to be manufactured, and serving as a liaison between engineering and manufacturing departments.

Program Learning Outcomes

- Apply a background in math, including trigonometry, and read engineering drawings
- Operate CNC machining and turning centers, and CNC program proveouts
- Apply CAD/CAM programming methods needed for CNC centers
- Understand fixturing techniques and tooling selection for machining typical piece parts
- Demonstrate a basic knowledge of computer hardware and software

Admission Requirements

- High school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment
- Completion of Machine Tool Operations CNC diploma program
- Completion of two years of hands-on CNC machine tool experience

Related Programs

Machine Tool Operations, Tool and Die Making

Start Dates: August/January

For Information

414-297-6315, matc.edu

EIGHT-WEEK TERMS

Select one group of programming courses per quarter:

CNC MACHINING CENTER PROGRAMMING:

CNC-324	CNC Machine Programming/Proveout 1 ‡	3
CNC-325	CNC Machine Programming/Proveout 2 ‡	3
CNC-326	Machining Center CAD/CAM Programming 1 ‡	3
CNC-327	Machining Center CAD/CAM Programming 2 ‡	3

CNC TURNING CENTER PROGRAMMING:

CNC-332	CNC Turning Programming/Proveout 1 ‡	3
CNC-333	CNC Turning Programming/Proveout 2 ‡	3
CNC-334	Turning Center CAD/CAM Programming 1 ‡	3
CNC-335	Turning Center CAD/CAM Programming 2 ‡	3

ADDITIONAL REQUIRED COURSES: (16-WEEK TERMS)

ENG-347	Communications 2	1
CNC-302	Computer Application/CNC	1
MACHTL-386	Machine Trades Mathematics 3 ‡	1
MDRAFT-320	Coordinate Blueprint Reading ‡	1
CNC-320	Tooling and Fixturing	1
CNC-321	CNC Machine Technology	1
MTLGY-321	Metallurgy 1	1
SOCSCI-330	Applied Economics and Human Relations	1

TOTAL CREDITS: 32

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Criminal Justice – Law Enforcement

ASSOCIATE DEGREE

Program Code: 10-504-1

Downtown Milwaukee, Mequon and Oak Creek campuses

This Associate in Applied Science degree program prepares you for employment in law enforcement at the state, local and federal levels, as well as in the field of private security. Many courses contain training directly from the Wisconsin Law Enforcement Standards Board curriculum related to the certification of law enforcement officers. Successful program completion may qualify you to enroll in basic recruit training that leads to certification in Wisconsin. Some law enforcement agencies list an associate degree as a pre-employment requirement; you may also acquire knowledge that may be acceptable in lieu of other agency requirements.

Career Outlook

The need for trained public safety professionals has increased. Employment prospects will be enhanced if you are in sound mental and physical condition, and are able to pass a rigid physical examination. Desirable physical attributes include average vision, normal hearing and good depth perception. You must be able to perform all physical aspects of the job, which can be strenuous.

You must be a U.S. citizen, have a valid driver's license, have a clear criminal background and be able to pass a thorough background investigation.

Program Learning Outcomes

- Determine the nature of a problem and decide on a legal course of action
- Recall details and properly document for use in civil or criminal proceedings
- Develop skills for safe use of equipment, firearms and vehicles
- Possess a broad understanding of government, the criminal justice process, and supporting agencies
- Exhibit emotional stability and react calmly in emergency situations
- Develop skills for the efficient and safe use of equipment, firearms and vehicles

Admission Requirements

- Age 17 and older
- Official high school or GED/HSED transcript, and an ACT or MATC assessment test score above the program minimum
- Course placement assessment of basic skills proficiency
- Background check

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) POLICE-900	Introduction to Criminal Justice	3
(1) POLICE-901	Constitutional Law	3
(1) POLICE-908	Traffic Theory	3
(1) POLICE-161	Ethics in Law Enforcement	3
(2) POLICE-902	Criminal Law ‡	3
(2) POLICE-904	Juvenile Law ‡	3
(2) POLICE-906	Criminal Investigation Theory ‡	3
(2) POLICE-907	Community Policing Strategies	3
(3) POLICE-115	Criminal Evidence ‡	3
(3) POLICE-160	Contemporary Legal Issues	3
(3) POLICE-162	Sensitive Crimes	3
(4) POLICE-163	Interview and Interrogation.....	3
(4) POLICE-903	Professional Communications ‡	3
(4) POLICE-905	Report Writing ‡	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics.....	3
	(or) Any 200-series MATH course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-172	Introduction to Diversity Studies.....	3
	(or) SOCSCI-217 Valuing Diversity	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED..... 6

FLANG-101	Survival Spanish for Law Enforcement Officers
POLICE-164	Law Enforcement Employability and Fitness
POLICE-144	Law Enforcement Internship 1 ‡
POLICE-145	Law Enforcement Internship 2 ‡

TOTAL CREDITS: 69

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Deputy Sheriff, Investigator, Police Officer, Private Security Professional

Diesel and Powertrain Servicing

TECHNICAL DIPLOMA **Program Code: 31-412-3** Oak Creek Campus

This one-year program prepares you for servicing equipment powered by gas or diesel engines, such as stationary engines, construction equipment and marine applications, with emphasis on the heavy truck field. With the instructor's consent, portions of this program may be taken off campus for co-op credit. To be successful in the program, it is important to be attentive and follow directions to ensure personal safety and avoid costly errors. After admission to the program, each student will need a basic, hand tool set. The program is accredited by the National Automotive Technicians Education Foundation.

Career Outlook

In the transportation and construction equipment industries, truck and heavy equipment mechanics are in constant demand. Employment opportunities include dealerships, distributors, independents, fleets and companies using heavy equipment. Typical job titles of positions available for program graduates are diesel mechanic, truck mechanic, service technician, construction equipment mechanic and sales/service technician.

Program Learning Outcomes

Employers expect graduates to demonstrate:

- Preventive maintenance skills relative to checking, lubricating and making necessary adjustments and minor repairs to extend serviceability
- Skill in working with specialized test equipment and machine tools
- Accuracy in identifying component parts and assemblies to assist in proper replacement
- Sufficient skills in troubleshooting and repairing engines, drive components and electrical components
- Safe, organized and neat work habits

Admission Requirements

- Course placement assessment of basic skills proficiency
- A high school diploma or GED is recommended.

Related Programs

Automotive Maintenance Technician, Automotive Technology, Aviation Technician

Start Dates: August/January

For Information
414-297-6315, matc.edu



EIGHT-WEEK TERMS		Credits
DIESEL-301	Diesel Fuel Systems ‡	2
DIESEL-307	Electrical/Electronics Shop ‡	5
SOCSCI-330	Applied Economics and Human Relations	1
DIESEL-319	Driveline Components ‡	5
DIESEL-345	Preventive Maintenance ‡	2
DIESEL-306	Engine Construction and Installation ‡	5
DIESEL-338	Emission Control Systems ‡	2
ENG-345	Communications 1	1
WELD-305	Fundamentals of Oxyfuel Welding	1
DIESEL-333	Heavy Truck HVAC Systems ‡	2
DIESEL-341	Front-End, Brake and Suspension Systems ‡	5

TOTAL CREDITS: 31

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Possible Careers: Diesel Mechanic, Truck Mechanic, Service Technician

Electrical Power Distribution/Line Mechanic

TECHNICAL DIPLOMA

Program Code: 31-413-2

Mequon Campus

This two-semester program prepares students for entry-level electrical line worker positions in industry. Although completion of this program does not substitute for an electrical apprenticeship, it does offer the basic knowledge needed to begin working for some electrical utilities, contractors and in related trades. Good physical strength, manual dexterity and the ability to climb without fear of heights are important attributes for success. Normal vision, including color perception, is important. Commercial driver's license eligibility is recommended.

Career Outlook

Industry requires electrical line workers to construct and maintain overhead electric transmission and distribution systems; work on energized and de-energized circuits; install and remove line equipment, street lights, poles and anchors; and perform wiring working from a pole, ladder, insulated aerial basket or insulated work platform. Electrical line workers also operate various equipment including auger, derrick material handler and articulated arm. Positions available to program graduates include apprenticeship or entry-level employment as a line worker, substation electrician, meter worker and cable installer.

Program Learning Outcomes

- Apply basic electrical principles to electrical power distribution
- Use basic meters to check electrical circuits
- Do basic calculations relative to circuit loading and wire size
- Climb and work overhead
- Perform associated mechanical operations necessary to install, service or remove electrical line equipment
- Work cooperatively in construction crews
- Read construction orders and prints
- Communicate using written and oral means

Admission Requirements

- A high school diploma or GED
- Ability to drive and a valid driver's license
- Course placement assessment of basic skills proficiency

Related Program

Electricity

Start Date: August

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

	Credits
ELECTY-318 Electrical Power Distribution 1A ‡	5
ELECTY-319 Electrical Power Distribution 1B ‡	4
ELECTY-320 Electrical Principles and Applied Math 1 ‡	4
ELECTY-321 Line Mechanic Rescue and Safety ‡	2
ELECTY-322 Electrical Power Distribution 2A ‡	5
ELECTY-323 Electrical Power Distribution 2B ‡	4
ELECTY-324 Electrical Principles and Applied Math 2 ‡	4
ENG-341 Applied Communications	2

TOTAL CREDITS: 30

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Electricity

TECHNICAL DIPLOMA

Program Code: 31-413-1

Downtown Milwaukee Campus

This two-semester program prepares you for entry-level electrician positions in industry and the building trades. Completion of this program does not substitute for an electrical apprenticeship, but does offer you the basic knowledge needed to begin working for some electrical contractors. Some graduates use the training as a step toward an apprenticeship, either as a construction electrician or industrial maintenance electrician. Skills and aptitudes necessary for success in the program are normal physical strength, good manual dexterity, and the ability to climb without fear of heights. Normal vision, including color perception, is important. MATC also offers a certificate program, Electrical Construction, which concentrates on residential electrical construction.

Career Outlook

Many fields, including industry, construction and maintenance, require electricians and this diploma helps you start that career path. Positions available to program graduates include electrician's helper and electrical parts distribution worker.

Program Learning Outcomes

Employers expect graduates to:

- Use basic meters to check electrical circuits
- Do basic calculations relative to circuit loading and wire size
- Perform associated mechanical operations, such as conduit bending and wiring
- Read electrical blueprints and interpret electrical code
- Communicate using written and oral means

Admission Requirements

- A high school diploma or GED
- Ability to drive and a valid driver's license
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Electrical Power Distribution/Line Mechanic

Start Dates: August/January

For Information

414-297-6315, matc.edu



SIXTEEN-WEEK TERMS

Credits

ELECTY-308	Basic Skills for Electrical Wiring ‡	2
ELECTY-310	Cable Wiring ‡	2
ELECTY-312	Electrical Raceway Installation ‡	2
ELECTY-340	Electrical Code Fundamentals 1 ‡	2
ELECTY-378	Construction Blueprint Reading ‡	1
ELECTY-392	Principles of Electricity	5
	(or) ELECTY-390 Principles of Electricity 1 and ELECTY-391 Principles of Electricity 2	
ELECTY-314	Electrical Service Installation ‡	1
ELECTY-328	Electric Motor Control Wiring ‡	2
ELECTY-341	Electrical Code Fundamentals 2 ‡	1
ELECTY-382	Electrical Equipment Circuit Analysis ‡	1
ELECTY-384	Electrical Design and Estimating ‡	1
ELECTY-386	Solid State Devices ‡	2
ELECTY-394	Electrical Apparatus ‡	4
ENG-345	Communications 1	1
SOCSCI-330	Applied Economics and Human Relations	1

TOTAL CREDITS: 28

‡ Prerequisite required.
Program curriculum requirements are subject to change.

Possible Careers: Electrician, Electrician's Helper, Construction Electrician Apprentice, Industrial Maintenance Electrician Apprentice

Electronic Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-605-7

West Allis Campus

(Official WTCS Title: Electronic Systems Technician)

This Associate in Applied Science degree program prepares you for professional and supervisory positions in the electronics field. It includes opportunities to develop the skills for engineering support in high-tech electronic industry environments. Normal vision and good manual dexterity are important for success in the program. If interested in pursuing an Electrical Engineering baccalaureate degree at the time of admission, select the BSEE Transfer Track that includes specific electronics, higher-level mathematics and college transfer courses. Upon graduation and meeting specific admission requirements, this prepares you for entry into the Milwaukee School of Engineering BSEE Transfer Track program. Graduates of the Job-Ready emphasis who later become interested in pursuing a baccalaureate degree may continue in a customized certificate program to complete the requirements for admission to a four-year engineering program.

Career Outlook

Electronic engineering technology is a fast-growing segment of the workforce. Employment includes assisting engineers, scientists and producers of electronic equipment and electronic systems. Opportunities also are in research and development, installation, sales and customer service.

Program Learning Outcomes

Employers expect graduates to:

- Apply the practical and theoretical foundations and skills of electronic engineering technology to solve related problems
- Apply critical thinking skills necessary to analyze, install, troubleshoot and maintain electronic systems and equipment
- Repair electronic circuits and systems using industry-accepted test equipment and results interpretation
- Apply a standard set of principles for continuous quality improvement on the job and throughout one's career

Admission Requirements

- A high school diploma or GED
- One year of high school-level geometry and one year of high school-level algebra, or equivalent
- Course placement assessment of basic skills proficiency

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

FOR BOTH JOB-READY AND MSOE TRANSFER TRACK

The Transfer Track option is available directly to those entering the program calculus-ready.

(1) ELCTEC-110	DC and AC Electronics 1 ‡	4
(1) ELCTEC-130	Digital Electronics ‡	3
(2) ELCTEC-111	DC and AC Electronics 2 ‡	3
(2) ELCTEC-120	Electronic Devices and Circuits ‡	4
(2) ELCTEC-140	Microprocessors ‡	3
(3) ELCTEC-121	Advanced Electronic Devices and Circuits ‡	3
(3) ELCTEC-150	Data Communications and Networking ‡	3
(4) ELCTEC-141	Microcontrollers ‡	3
(4) ELCTEC-198	Advanced PLCs ‡	3
(4) ELCTEC-195	Motors and Controls ‡	4

Choose one emphasis listed below:

JOB-READY EMPHASIS

(1) MATH-115	College Technical Math 1 ‡	5
	(or) MATH-230 College Algebra and Trigonometry ‡	
(2) ELCTEC-131	Advanced Digital Electronics ‡	3
(2) MATH-116	College Technical Math 2 ‡	4
(3) ELCTEC-196	Programmable Controllers ‡	3
(4) ELCTEC-176	Computer Networks ‡	3

MSOE BSEE TRANSFER TRACK EMPHASIS

(1) MATH-231	Analytic Geometry and Calculus 1 ‡	5
(2) MATH-232	Analytic Geometry and Calculus 2 ‡	5
(3) ELCTEC-112	DC and AC Electronics 3 ‡	3
(4) ELCTEC-124	Electronic Circuit Analysis ‡	3

GENERAL STUDIES

ECON-201	Principles of Microeconomics (MSOE emphasis)	3
	(or) ECON-202 Principles of Macroeconomics (MSOE emphasis)	
ENG-151	Communication Skills 1 ‡ (Job-ready emphasis)	3
(&) ENG-152	Communication Skills 2 ‡ (Job-ready emphasis)	3
	(or) ENG-201 and any 200-series ENG or SPEECH course (Job-ready emphasis)	
	(or) ENG-201 and ENG-208 (MSOE emphasis)	
NATSCI-137	Comprehensive Technical Physics ‡ (Job-ready)	4
	(or) NATSCI-221 College Physics 1 ‡ (MSOE emphasis)	
PSYCH-199	Psychology of Human Relations (Job-ready)	3
	(or) PSYCH-231 Introductory Psychology ‡ (MSOE emphasis)	
SOCSCI-197	Contemporary American Society (Job-ready)	3
	(or) SOCSCI-203 Introduction to Sociology (MSOE emphasis)	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED (Job-ready) 3

(FIVE CREDITS NEEDED for MSOE emphasis)

ELCTEC-112	DC and AC Electronics ‡ (Job-ready emphasis)
ELCTEC-124	Electronic Circuit Analysis ‡ (Job-ready emphasis)
MATH-233	Analytic Geometry and Calculus 3 ‡ (MSOE emphasis)

TOTAL CREDITS: 70

73 credits in the MSOE Transfer Track program.

Program curriculum requirements are subject to change.

‡ Prerequisite required. () = Semester order for full-time students.

Possible Careers: Electronic Test Technician, Manufacturing Test Technician, Production Assistant or Supervisor, Research and Development Technician

Electronic Technology

ASSOCIATE DEGREE

Program Code: 10-605-1

Downtown Milwaukee Campus

(Official WTCS title: Electronics)

This Associate in Applied Science degree program prepares students for a variety of occupations in the electronics field. Emphasis is placed on electronic systems troubleshooting, integration of computer technologies, and field applications. Normal vision and good manual dexterity are important for success. When employment opportunities arise, and with the employer's and instructor's consent, the elective course ELCTEC-100 may be taken off campus for credit.

Coursework in automation relates to equipment, software and systems that use electronic controls to automate various manufacturing, production and alternative energy processes. PLCs (Programmable Logic Controllers) and PACs (Programmable Automation Controllers) provide the control for a large portion of the automated systems found in industry. Programming and integrating the sensors and actuators to these controllers provide the needed skills and experience to successfully build and troubleshoot larger control systems. The sensors and actuators present another level of skills and experience needed to successfully build and repair the systems.

Career Outlook

Electronic technology is a rapidly changing field. New devices and equipment are constantly being incorporated into manufacturing, production and alternative energy facilities. These changes create great opportunities for individuals wanting to work with the equipment and systems, from devices to company-wide data acquisition programming. Skills acquired from this program provide a strong foundation to keep pace with the changing field.

Program Learning Outcomes

Employers expect graduates to:

- Apply the practical and theoretical foundations and skills of electronics technology to solve related problems
- Apply critical thinking skills necessary to analyze, install, troubleshoot and maintain electronic systems and equipment
- Integrate and repair electronic circuits and systems
- Program and modify electronic control software
- Write comprehensive technical reports and task analysis

Start Dates: August/January

For Information

414-297-6315, matc.edu



Admission Requirements

- A high school diploma or GED
- One year of high school-level geometry and one year of high school-level algebra, or equivalent
- Course placement assessment of basic skills proficiency

Related Programs

Biomedical Electronics Technology, Computer Electronics Technology, Electronic Engineering Technology

TECHNICAL STUDIES	Credits
(1) ELCTEC-110 DC and AC Electronics 1 ‡	4
(1) ELCTEC-130 Digital Electronics ‡	3
(1) ELCTEC-170 Computer Systems ‡	3
(2) ELCTEC-111 DC and AC Electronics 2 ‡	3
(2) ELCTEC-120 Electronic Devices and Circuits ‡	4
(2) ELCTEC-140 Microprocessors ‡	3
(2) ELCTEC-186 Fabrication Techniques ‡	1
(3) ELCTEC-150 Data Communications and Networking ‡	3
(3) ELCTEC-173 Computing with C ‡	3

AUTOMATION EMPHASIS	Credits
(3) ELCTEC-195 Motors and Controls ‡	4
(3) ELCTEC-196 Programmable Controllers ‡	3
(4) ELCTEC-192 Basic Industrial Hydraulics and Pneumatics ‡	2
(4) ELCTEC-198 Advanced Programmable Controllers ‡	3
(4) ELCTEC-199 Automated Systems ‡	3

GENERAL STUDIES	Credits
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115 College Technical Mathematics 1 ‡	5
(or) MATH-113 and MATH-114	
MATH-116 College Technical Mathematics 2 ‡	4
NATSCI-137 Comprehensive Technical Physics	4
(or) NATSCI-221 College Physics 1 ‡	
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-197 Contemporary American Society	3
(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED 3

ELCTEC-100	Electronics Co-Op ‡
ELCTEC-121	Advanced Electronic Devices and Circuits ‡

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Automation and Controls Technician, Electronic Systems Technician, Robotics Technician

Emergency Medical Technician

TECHNICAL DIPLOMA

Program Code: 30-531-3

Mequon and Oak Creek campuses

Prepare to enter the emergency services field, which involves working with other healthcare professionals to deliver critical, pre-hospital emergency medical care. This program also is designed to enhance existing skills of individuals working in the field. Successfully completing the program with a grade of C or higher prepares you to take the National Registry Examination, required for certification and licensure in Wisconsin. The program uses the State of Wisconsin curriculum, and students will also receive training in CPR using American Heart Association curriculum. Students must not have any disabilities that would prevent them from being able to perform an accurate and immediate assessment of a patient in a medical intervention. Students also must be able to physically perform the test modules of the National Registry Examination to gain certification.

Career Outlook

Employers include private ambulance services, hospitals, fire departments, industrial firms and security companies. After completion of this program and state certification, you may progress into the certifications of IV Technician and Paramedic.

Program Learning Outcomes

Employers expect graduates to:

- Function as a member of the pre-hospital emergency medical care team
- Be able to perform patient assessments and communicate observations to other emergency medical personnel
- Possess knowledge and skills in methods designed to begin emergency medical treatment when necessary
- Have knowledge and skills associated with stabilization and transport of injured or ill patients
- Work under stress

Admission Requirements

- Age 17 or older (Must be at least 18 years old at time of National Registry testing and when applying for the State EMT-Basic license)
- Background check
- Students entering the program must have an official high school or GED/HSED transcript, and an ACT or MATC assessment test score above the program minimum

Start Dates: August/January

For Information

414-297-6315, matc.edu

COURSE

EMS-301

Emergency Medical Technician 5

Credits

TOTAL CREDITS: 5

Program curriculum requirements are subject to change.

Emergency Medical Technician – Advanced

TECHNICAL DIPLOMA

Program Code: 30-531-6

Mequon and Oak Creek campuses

(Official WTCS title: Advanced EMT)

The Emergency Medical Technician – Advanced coursework builds upon the skills acquired in the Emergency Medical Technician program. Students learn advanced patient assessment skills and technical skills such as IV access, fluid therapy and administration of dextrose and Narcan. Advanced emergency medical technicians perform emergency patient care, basic life support, and limited advanced life support in the field, transporting injured and ill patients to hospital emergency rooms. This program meets Wisconsin licensure requirements.

Students must not have any disabilities that would prevent them from being able to perform an accurate and immediate assessment of a patient in a medical intervention. Students also must be able to physically perform the test modules of the National Registry Examination to gain certification.

Career Outlook

Career opportunities are growing steadily and exist in the private and public sectors, including hospitals, fire departments and providers of ambulance services. With additional education and/or work experience, students may find employment opportunities including emergency room technician, firefighter, paramedic or medical assistant. Completion of the program allows students to take state licensure exams.

Program Learning Outcomes

Employers expect graduates to:

- Function as a member of the pre-hospital emergency medical care team
- Be able to perform patient assessments and communicate observations to other emergency medical personnel
- Possess knowledge and skills in methods designed to begin emergency medical treatment when necessary
- Have knowledge and skills associated with stabilization and transport of injured or ill patients
- Work under stress

Related Programs

Criminal Justice – Law Enforcement,
Emergency Medical Technician, Fire Protection Technician,
Paramedic Technician

Start Dates: August/January

For Information

414-297-6315, matc.edu

Admission Requirements

- Age 18 or older
- State of Wisconsin Emergency Medical Technician License (current)
- American Heart Association CPR (current)
- Medical exam, including verification of immunizations and TB testing
- Criminal background check
- Documentation that the Essential Job Functions have been reviewed. This is in keeping with the federal Americans With Disabilities Act (ADA).

COURSE

EMS-311 Advanced Emergency Medical Technician ‡..... **4**

Credits

TOTAL CREDITS: 4

‡ Prerequisite required.

Program curriculum requirements are subject to change.

180 hours total

Clinical hours consist of time in hospital settings or with sponsoring fire department/ambulance providers that use approved preceptors to oversee.

Fire Protection Technician

ASSOCIATE DEGREE

Program Code: 10-503-2

Oak Creek Campus

This Associate in Applied Science degree program prepares students for employment in the fire service and/or fire-related duties within private industry. The objectives of the program are twofold: to instruct qualified high school graduates who are seeking a career in the fire service, and to update firefighters and officers on changes within the fire service. Students will have the opportunity to obtain three Wisconsin fire certifications and a Wisconsin Emergency Medical Technician license. Students also are given the opportunity to practice interviewing techniques, develop a résumé and take a candidate physical agility test (CPAT), which is recognized as the minimum physical standard for entry onto most departments. Core abilities include the ability to work under stress, communicate effectively, collaborate with others, respect diversity, demonstrate responsibility, think critically, utilize technology, and have mechanical aptitude.

Career Outlook

Fire technology is becoming more complex, so well-trained and educated firefighters are in demand.

Program Learning Outcomes

- Identify and solve firefighting problems
- Apply tactics and strategies to emergency fire incidents
- Utilize personal protective equipment
- Demonstrate fire safety procedures
- Determine causes of fires
- Identify and respond to emergencies related to hazardous materials
- Demonstrate knowledge of arson investigation procedures
- Demonstrate ability to function as a member of a team
- Demonstrate physical fitness

Admission Requirements

- Age 17 or older
- Background check
- Medical exam
- Students entering the program must have an official high school or GED/HSED transcript, and an ACT or MATC assessment test score above the program minimum
- Course placement assessment of basic skills proficiency

Start Dates: August/January

For Information

414-297-6315, matc.edu

TECHNICAL STUDIES

	Credits
(1) FIRE-191 Principles of Emergency Services	2
(1) FIRE-192 Principles of Emergency Services Safety and Survival	3
(1) FIRE-193 Fire Protection Systems	3
(1) FIRE-143 Building Construction for Fire Protection	3
(2) FIRE-142 Firefighting Principles	4
(2) FIRE-153 Hazardous Materials Awareness and Operations	1
(2) FIRE-156 Strategies, Tactics and Incident Management ‡	4
(2) FIRE-154 Hazardous Materials Chemistry ‡	2
(3) FIRE-114 Employability Skills ‡	3
(3) FIRE-144 Advanced Firefighting Principles ‡	2
(3) FIRE-151 Fire Prevention ‡	4
(3) EMS-192 Emergency Medical Technician Basic ‡	5
(4) FIRE-157 Fire Investigation ‡	3
(4) FIRE-116 Fire Department Management ‡	3
(4) FIRE-194 Fire Protection Hydraulics ‡	3
(4) FIRE-195 Fire Behavior and Combustion	3

GENERAL STUDIES

ECON-195 Economics	3
(or) Any 200-series ECON course	
ENG-151 Communication Skills 1 ‡	3
(&) ENG-152 Communication Skills 2 ‡	3
(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107 College Mathematics ‡	3
(or) Any 200-series MATH course	
NATSCI-177 General Anatomy and Physiology	4
PSYCH-199 Psychology of Human Relations	3
(or) Any 200-series PSYCH course	
SOCSCI-172 Introduction to Diversity Studies	3
(or) SOCSCI-217 Valuing Diversity	

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Note: Each student enrolled in the Fire Protection Technician degree program will be required to take classes for which a State of Wisconsin criminal and driving background check and specific immunization(s) will be required at the student's expense. Failure to successfully meet these requirements will preclude the student from being able to fulfill the requirements of the Fire Protection Technician associate degree.



Possible Careers: Firefighter, Industrial Fire Prevention, Industrial Safety Manager

Interior Design

ASSOCIATE DEGREE

Program Code: 10-304-1

West Allis Campus

The primary emphasis of this Associate in Applied Science degree program is developing the knowledge to create appropriate design solutions. Interior designers use creativity, technical knowledge and aesthetics to create solutions that improve the function and quality of interior environments. Coursework includes manual and CAD (computer-aided design) drawing, commercial and residential planning, design fundamentals and an overview of the design process. Students will be exposed to the interrelations of color, lighting and materials. With an associate degree and four years of full-time work experience, graduates are eligible to take the NCIDQ exam and qualify for state licensing.

Career Outlook

Demand for interior designers is strongest in kitchen and bath design and remodeling, and in corporate and industrial facilities design. Graduates may also work in architectural firms, furniture dealerships, furniture showrooms and design studios.

Program Learning Outcomes

Employers expect graduates to:

- Develop design concepts
- Visualize a design solution in three dimensions
- Plan safe, efficient and functional spaces
- Select and specify appropriate color, material and furnishing selections
- Communicate effectively with clients, contractors and industry partners
- Make the appropriate color and finish selections
- Justify design solutions orally and graphically

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills proficiency through a course placement assessment
- Demonstration of proficiency in basic computer skills or completion of COMPSW-106

Related Program

Architectural Technology

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) INDSGN-100	Introduction to Interior Design.....	3
(1) INDSGN-102	Basic Architectural Drawing.....	3
(1) INDSGN-104	Interior Elements of Building Construction	3
(1) INDSGN-106	Materials and Furniture Design	3
(2) INDSGN-108	Residential Studio ‡.....	3
(2) INDSGN-110	Advanced Architectural Drawing ‡.....	3
(2) INDSGN-112	Textiles: Science, Application and Design.....	2
(2) INDSGN-114	Color and Light ‡	3
(3) INDSGN-116	Kitchen and Bath Design ‡	3
(3) INDSGN-118	Commercial Studio ‡	3
(3) INDSGN-120	Professional Practice and Field Experience ‡.....	3
(3) INDSGN-122	Styles of Furniture and Architecture ‡.....	3
(4) INDSGN-124	Advanced Commercial Studio ‡.....	3
(4) INDSGN-126	Trends in Interior Design ‡.....	3
(4) INDSGN-128	Designer/Client Relationships	3
(4) INDSGN-130	Portfolio Development and Application ‡.....	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(& ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations.....	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

COMART-107	Digital Imaging – Adobe Photoshop
PHOTO-101	Digital Fundamental Photography

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Design Consultant, Interior Designer, Kitchen Designer, Lighting Designer, Manufacturer's Representative, Residential Designer

Landscape Horticulture

ASSOCIATE DEGREE

Program Code: 10-001-4

Mequon Campus

To prepare for a range of careers in the horticulture/landscape industry, students learn about sustainable and environmental horticulture operations; maintaining healthy trees, shrubs and herbaceous plants; selecting and installing plant material; operating equipment; and developing and executing landscape plans. In this Associate in Applied Science degree program, classes are offered full-time days or part-time evenings; students choose one of three program tracks: Design, Landscape Construction, or Landscape Maintenance and Arboriculture. For hands-on learning, the Mequon Campus features a greenhouse and extensively landscaped grounds. MATC's program is certified by the Professional Landcare Network (PLANET). Each year, students participate in PLANET Student Career Days and in Tree Care Industry Association Student Career Days, and MATC's Hort Club is a very active student organization.

Career Outlook

Arborists, horticulturists, landscape designers and landscapers are in steady demand year-round. Typical career settings include landscape companies, garden centers, municipal parks and recreational properties. Possible careers also include grounds manager, garden center manager and landscape construction manager.

Program Learning Outcomes

Employers expect graduates to:

- Have a good technical background in horticultural plants and their selection and maintenance
- Conduct client interviews and site analysis
- Safely operate and maintain equipment
- Communicate effectively and work well with people
- Have a positive attitude toward the job

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills proficiency through a course placement assessment

Related Program

Environmental Health and Water Quality Technology

Start Dates: August/January

For Information

414-297-6315, matc.edu



Possible Careers: Arborist, Horticulturist, Landscape Designer

TECHNICAL STUDIES

Credits

(1) HORT-111	Introduction to Horticulture	3
(1) HORT-122	Landscape Design I	3
(1) HORT-114	Woody Ornamental Plants	3
(1) HORT-116	Landscape Equipment	3
(2) HORT-112	Horticulture Soils	3
(2) HORT-113	Ornamental Plant Health Care	3
(2) HORT-159	Survey of Herbaceous Plants	2
(2) HORT-126	Landscape Estimating and Bidding	3
(2) HORT-118	Landscape Business Principles	3
(3) HORT-125	Landscape Maintenance Applications	3
(4) HORT-132	Communications and Marketing	2

SELECT ONE OF THE FOLLOWING GROUPS OF COURSES:

DESIGN

(3) HORT-119	Landscape Construction 1	3
(3) HORT-123	Landscape Design II ‡	3
(3) HORT-160	Landscape Plants – Trees ‡	2
(4) HORT-161	Landscape Plants – Shrubs ‡	2
(4) HORT-124	Landscape Design 3 ‡	2

LANDSCAPE CONSTRUCTION

(3) HORT-119	Landscape Construction 1	3
(3) HORT-117	Landscape Equipment 2	3
(3) HORT-121	Irrigation, Lighting and Ponds	3
(4) HORT-120	Landscape Construction II	3

LANDSCAPE MAINTENANCE AND ARBORICULTURE

(3) HORT-133	Turf Management and Related Equipment	3
(3) HORT-160	Landscape Plants – Trees ‡	2
(3) HORT-127	Arboriculture I	3
(4) HORT-161	Landscape Plants – Shrubs ‡	2
(4) HORT-171	Exterior Plant Pests	2

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) Any 200-series MATH course	
NATSCI-184	Plant Biology	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: SIX CREDITS NEEDED 6

HORT-128	Arboriculture II – Tree Climbing and Pruning
HORT-140	CAD Landscape Design 1
HORT-152	Greenhouse Production – Spring
HORT-163	Native Plants – Fall

TOTAL CREDITS: 70

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Machine Tool Operations: CNC Swiss Turning Center Setup and Operation

TECHNICAL DIPLOMA

Program Code: 31-420-1.A

Downtown Milwaukee Campus

To complete the work required for a one-year technical diploma in Machine Tool Operations, you may select this option or the Machine Tool Operations: CNC Machine Setup and Operation option.

This is a two-semester program covering the setup and operation of CNC Swiss turning center, single-spindle and multiple-spindle automatic screw machines. These machines perform manufacturing processes such as turning, drilling, threading and contouring. Core skills include a high mechanical aptitude, manual dexterity and mathematical skills. Credit may be given for work experience.

All program students are required to own or buy a tablet or other mobile device with Microsoft Office Suite and Adobe software to connect with ebooks, Blackboard, online handouts, blueprints and related materials. This capability is needed to complete the course requirements.

Career Outlook

Employers expect graduates to set up and operate CNC Swiss turning center and automatic screw machines safely, to read blueprints and to perform maintenance. These skills are in demand as manufacturers expand production.

Program Learning Outcomes

Employers expect graduates to:

- Set up and operate single-spindle automatic screw machines
- Set up and operate multiple-spindle automatic screw machines
- Set up and operate a CNC Swiss turning center

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Computer Numerical Control (CNC) Machine Operator/Programmer, Machine Tool Operations: CNC Machine Setup and Operation, Mechanical Design Technology, Tool and Die Making

Start Dates: August/January

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

Credits

MACHTL-360	Metrology	1
MACHTL-367	Machine Tool Technology.....	1
ENG-347	Communications 2	1
MACHTL-384	Machine Trades Mathematics 1.....	1
MDRAFT-385	Machine Blueprint Reading 1.....	1
MACHTL-347	Single-Spindle Auto Screw Machine 1.....	3
MACHTL-348	Single-Spindle Auto Screw Machine 2.....	3
MACHTL-361	Multiple-Spindle Auto Screw Machine 1 ‡	3
MACHTL-362	Multiple-Spindle Auto Screw Machine 2 ‡	3
MACHTL-304	Introduction to CNC Programming ‡.....	1
MACHTL-385	Machine Trades Mathematics 2 ‡	1
MDRAFT-386	Machine Blueprint Reading 2 ‡	1
MACHTL-391	Quality Control ‡	1
SOCSCI-330	Applied Economics and Human Relations	1
MACHTL-371	CNC Swiss Turning Center 1	3
MACHTL-372	CNC Swiss Turning Center 2	3
MACHTL-373	CNC Swiss Turning Center 3	3
MACHTL-374	CNC Swiss Turning Center 4	3

TOTAL CREDITS: 34

‡ Prerequisite required.

Program curriculum requirements are subject to change.



Possible Careers: Single-Spindle or Multiple-Spindle Screw Machine Setup and Operation, CNC Swiss Turning Center Setup and Operation

Machine Tool Operations: CNC Machine Setup and Operation

TECHNICAL DIPLOMA

Program Code: 31-420-1.B

Downtown Milwaukee Campus

To complete the work required for a one-year technical diploma in Machine Tool Operations, you may select this option or the Machine Tool Operations: CNC Swiss Turning Center Setup and Operation option.

This two-semester program trains you in the setup and operation of the Computer Numerical Control (CNC) vertical machining center and the CNC turning center – the centerpiece of many manufacturing firms. You also will receive instruction in how to interpret the CNC programs used by these machines. Full-time, part-time and apprenticeship options are available. Credit may be given for work experience, allowing you to complete the program more quickly. For details about apprentice course requirements, contact the apprenticeship coordinator at 414-571-4743.

All program students are required to own or buy a tablet or other mobile device with Microsoft Office Suite and Adobe software to connect with ebooks, Blackboard, online handouts, blueprints and related materials. This capability is needed to complete the course requirements.

Career Outlook

CNC machine tool operators with up-to-date experience, a high mechanical aptitude and strong mathematical skills are in demand.

Program Learning Outcomes

Employers expect graduates to:

- Set up and operate manual engine lathe
- Set up and operate manual milling machine
- Set up and operate CNC turning machine
- Set up and operate CNC vertical machine
- Set up and operate surface grinders

Admission Requirements

- High school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Programs

Computer Numerical Control (CNC) Machine Operator/Programmer, Machine Tool Operations: CNC Swiss Turning Center Setup and Operation, Mechanical Design Technology, Tool and Die Making

Start Dates: August/January

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

Credits

MACHTL-360	Metrology	1
MACHTL-367	Machine Tool Technology.....	1
ENG-347	Communications 2 ‡	1
MACHTL-384	Machine Trades Mathematics 1.....	1
MDRAFT-385	Machine Blueprint Reading 1.....	1
MACHTL-300	Engine Lathe 1	3
MACHTL-301	Engine Lathe 2	3
MACHTL-309	Manual Vertical Milling Machine 1	3
MACHTL-310	Manual Vertical Milling Machine 2	3
MACHTL-304	Introduction to CNC Programming ‡.....	1
MACHTL-385	Machine Trades Mathematics 2 ‡.....	1
MDRAFT-386	Machine Blueprint Reading 2 ‡.....	1
MACHTL-391	Quality Control ‡	1
MACHTL-320	Introduction to CNC Turning Centers	4
MACHTL-322	Introduction to CNC Vertical Machining Centers	4
MACHTL-325	Surface Grinding	4
SOCSCI-330	Applied Economics and Human Relations.....	1

TOTAL CREDITS: 34

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Mechanical and Computer Drafting

TECHNICAL DIPLOMA
Program Code: 31-421-2

Downtown Milwaukee Campus

This one-year program prepares students for employment as a detail drafter in the mechanical drafting field. For a new product to become reality, it must exist in the mind of the engineer, designer or drafter; then it is the detail drafter, working from design layouts, sketches and handbooks, who creates working drawings that aid in manufacturing the product. Skills necessary for success in this program include the ability to read technical data and solve math problems. Average or better mechanical aptitude and a grasp of spatial relationships are important. In addition to employment opportunities, successful completion of this program qualifies you to enter the second year of MATC's Mechanical Design Technology associate degree program.

Career Outlook

The employment outlook is favorable for mechanical drafters with current training in computer-aided design and drafting (CADD) systems. Positions typically available to program graduates include detail drafter, junior drafter and CAD operator. Manufacturing environments, contract engineers and engineering consulting firms employ mechanical drafters. These firms use CADD systems to create two- and three-dimensional orthographic and pictorial multiview drawings of mechanical engineering detail, assembly and tooling.

Program Learning Outcomes

Graduates will be knowledgeable in these areas:

- Orthographic projection, including primary and secondary auxiliary views
- Use of a CAD system
- Drawing format and dimensioning
- Use of handbooks, catalogs and ANSI standards
- Mathematical applications, including algebra and trigonometry
- Manufacturing processes

Admission Requirements

- A high school diploma or GED
- Course placement assessment in basic skills proficiency

Related Programs

Architectural Technology, Civil Engineering, Mechanical Design Technology

Start Date: August

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

	Credits
CIVIL-102 Introduction to AutoCAD.....	2
CIVIL-105 Computer Applications	2
MCDESG-162 Engineering Materials.....	2
MCDESG-102 Technical Drafting 1 ‡	3
MATH-113 College Technical Math 1A (Applied Algebra) ‡.....	3
(&) MATH-114 College Technical Math 1B (Applied Geometry/ Trigonometry) ‡	2
(or) MATH-115 College Technical Mathematics 1 ‡	
ENG-345 Communications 1	1
(or) ENG-151 Communication Skills ‡	
MCDESG-104 Technical Drafting 2 With CAD ‡	3
MCDESG-114 SolidWorks 1 ‡	2
NATSCI-167 Science of Technology.....	3
(or) NATSCI-137 Comprehensive Technical Physics	
MCDESG-106 Advanced Engineering Graphics ‡.....	3
MCDESG-124 SolidWorks 2 ‡	2
MCDESG-163 Machining Process	2

TOTAL CREDITS: 30

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Mechanical Design Technology

ASSOCIATE DEGREE

Program Code: 10-606-1

Downtown Milwaukee Campus

This program prepares students to understand the engineering design process; design and analyze mechanical components and assemblies; and create 3D solid models and 2D detailed drawings for parts and assemblies of mechanical and electromechanical systems using the latest computer aided design/drafting systems. You'll be prepared for employment as a mechanical drafter/designer in a design engineering department when you complete this Associate in Applied Science degree program. Important to your success are analytical skills and the ability to grasp spatial relationships. It is also helpful to be able to work well with your hands, possess good hand/eye coordination and have an interest in working with tools.

Career Outlook

The employment outlook is favorable for mechanical drafters/designers having current training involving CADD systems. Manufacturing environments, contract engineers and engineering consulting firms employ mechanical design technicians. Duties often involve applying learned and developed technical knowledge to solving design problems in the creation of a product.

Program Learning Outcomes

Employers expect graduates to:

- Prepare orthographic and pictorial mechanical engineering detail, assembly and tooling drawings, including design dimensioning and tolerancing, using a computer-aided design and drafting system
- Prepare three-dimensional (parametric, dimension-driven) models, assemblies and drawings
- Communicate mechanical engineering information using appropriate college-level technical language, both orally and in writing
- Apply analytical mathematics (algebra and trigonometry), and graphic knowledge and skills to the solution of mechanical engineering problems; e.g., statics, strength of materials, mechanisms and design of machine elements

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Course placement assessment of basic skills proficiency

Related Programs

Architectural Technology, Civil Engineering, Mechanical and Computer Drafting

Start Date: August

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) CIVIL-102	Introduction to AutoCAD	2
(1) CIVIL-105	Computer Applications.....	2
(1) MCDESG-162	Engineering Materials	2
(1) MCDESG-102	Technical Drafting 1 ‡.....	3
(2) MCDESG-104	Technical Drafting 2 With CAD ‡.....	3
(2) MCDESG-114	SolidWorks 1 ‡.....	2
(2) MCDESG-160	Statics ‡.....	3
(3) MCDESG-106	Advanced Engineering Graphics ‡.....	3
(3) MCDESG-118	Kinematics ‡.....	3
(3) MCDESG-130	Strength of Materials ‡.....	3
(3) MCDESG-163	Machining Processes ‡	2
(3) MCDESG-124	SolidWorks 2 ‡.....	2
(4) MCDESG-112	Tool Design ‡	3
(4) MCDESG-116	Design of Machine Elements ‡	3
(4) MCDESG-125	Design Problems ‡.....	3
(4) MCDESG-135	PTC Creo (Pro/E) 1 ‡	2

GENERAL STUDIES

ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Math 1 ‡	5
	(or) MATH-201 College Algebra ‡	
MATH-116	College Technical Math 2 ‡	4
	(or) MATH-202 Trigonometry ‡	
NATSCI-137	Comprehensive Technical Physics.....	4
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society.....	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: TWO CREDITS NEEDED..... 2

ELCTEC-102	Introductory Electronics
MCDESG-133	Inventor 1
MCDESG-134	Inventor 2
MCDESG-145	PTC Creo (Pro/E) 2

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Design/Drafting, Design Engineer, Mechanical Designer, Mechanical Drafter

Paramedic Technician

TECHNICAL DIPLOMA

Program Code: 31-531-2

Downtown Milwaukee Campus

Learn to perform advanced level prehospital care and techniques for private and municipal ambulance services. You will gain skills necessary to perform as an integral member of a prehospital emergency care team providing medical intervention to the ill or injured, and continuing that care during transport to a medical facility.

The EMS courses are taught at the Downtown Milwaukee Campus Health Education Center (HEC), 1311 North Sixth Street.

Career Outlook

Employers include private ambulance services, hospitals, fire departments, industrial firms and security companies. Employment of emergency medical technicians and paramedics has been projected to increase 25% nationally from 2010 to 2023.

Program Learning Outcomes

Employers expect graduates to:

- Possess the skills necessary to perform as an integral member of a prehospital emergency care team
- Provide medical intervention to the ill or injured
- Continue providing care during transport to a medical facility

Admission Requirements

- The individual is 18 years of age or older
- High school diploma or GED
- MATC assessment test score above the program minimum
- Current Wisconsin EMT-Basic license (or above)
- Current CPR certification at the Healthcare Provider or Professional Rescuer level
- Completed health requirements forms
- Complete caregiver background check
- Complete a functional ability form verifying you have read and understand the functional abilities for the program

Related Program

Emergency Medical Technician, Emergency Medical Technician – Advanced

Start Date: January

For Information

414-297-6315, matc.edu



SIXTEEN-WEEK TERMS

Credits

EMS-911	EMS Fundamentals	2
EMS-912	Paramedic Medical Principles	4
EMS-913	Advanced Patient Assessment Principles.....	3
EMS-914	Advanced Prehospital Pharmacology	3
EMS-915	Paramedic Respiratory Management.....	2
EMS-916	Paramedic Cardiology	4
EMS-917	Paramedic Clinical/Field 1.....	3
EMS-918	Advanced Emergency Resuscitation	1
EMS-919	Paramedic Medical Emergencies	4
EMS-920	Paramedic Trauma	3
EMS-921	Special Patient Populations	3
EMS-922	EMS Operations.....	1
EMS-923	Paramedic Capstone Assessment.....	1
EMS-924	Paramedic Clinical/Field 2.....	4
SOCSCI-172	Introduction to Diversity Studies	3

TOTAL CREDITS: 41

‡ Prerequisite required.

Program curriculum requirements are subject to change.

The EMS classes are held at the Downtown Milwaukee Campus Health Education Center, 1311 North Sixth Street.

Possible Careers: Paramedic, Ambulance Attendant, Firefighter, Emergency Room Technician

Power Engineering and Boiler Operator

TECHNICAL DIPLOMA

Program Code: 30-428-1

Oak Creek Campus

This two-semester program prepares students to manage and repair equipment, to maintain facilities, and to operate and control low- and high-pressure boilers and auxiliary systems in factories, plants and buildings. A high mechanical aptitude, manual dexterity and good people skills will contribute to your success in this field.



Career Pathway

You can earn the Boiler Operator certificate on your way to completing this diploma.

Career Outlook

Stationary engineers, boiler operators and power engineers start up, regulate and shut down equipment. They ensure that it operates safely, economically and within established limits by monitoring meters and computerized controls. They manually control equipment and when necessary, make adjustments. They also record relevant facts concerning operation and maintenance in an equipment log. On steam boilers they observe, control and record steam pressure, temperature, emissions and other data. They check machinery and routinely check safety devices, identifying and correcting problems that develop.

Program Learning Outcomes

Graduates will be able to:

- Define industry safety standards
- Explain operation of power engineering equipment
- Describe boiler operation effects on emission
- Describe water treatment fundamentals related to power engineering equipment
- Describe power engineering related to control fundamentals
- Identify firing methods for different fuel types
- Prepare to complete the ASOPE certification exam
- Apply natural science principles to power engineering
- Relate basic electricity principles to power engineering
- Relate maintenance and repair principles to power engineering
- Perform basic facility maintenance and operations

Related Programs

Boiler Operator Certificate; Refrigeration, Air Conditioning and Heating Service Technician; Electricity; Sustainable Facilities Operations

Start Dates: August/January

For Information

414-297-6315, matc.edu



MILWAUKEE AREA Technical College
School of TECHNOLOGY and APPLIED SCIENCES

Admission Requirements

- High school diploma or GED
- Course placement assessment of basic skills proficiency

SIXTEEN-WEEK TERMS

Credits

POWENG-330	Low-Pressure Boilers ^	1
POWENG-331	High-Pressure Boilers ^	2
POWENG-332	Boiler Operation ^	1
POWENG-395	Electricity for Power Engineering.....	3
POWENG-336	Math for Power Engineers.....	1
POWENG-333	Plant Maintenance and HVAC Basics	3
POWENG-334	Blueprint Reading for Power Engineering.....	1
POWENG-335	Instrumentation and Controls.....	3
SOCSCI-330	Applied Economics and Human Relations.....	1
ENG-345	Communications 1	1

TOTAL CREDITS: 17

‡ Prerequisite required.

Program curriculum requirements are subject to change.

^ Counts toward earning the Boiler Operator certificate.

Possible Careers: Building Engineer, Facilities Maintenance Mechanic, Power Plant Operator, Power Plant Mechanic, Heat Plant Operator

Preparatory Plumbing

TECHNICAL DIPLOMA
Program Code: 30-427-1

MATC Education Center at Walker's Square

This two-semester diploma program focuses on preparing you for an apprenticeship in plumbing. Aptitudes important for success include good mechanical comprehension, spatial visualization, reading and math skills, physical strength, and the ability to work with others. The program offers basic knowledge and skills similar to parts of the first year of an apprentice's training. Consequently, as a Preparatory Plumbing program graduate applying for an apprenticeship, you will be able to demonstrate your commitment to the plumbing trade and be able to offer entry-level skills if selected for a plumbing apprenticeship. This program is also appropriate for those interested in a career in other piping trades such as sprinkler fitting, steamfitting or industrial pipefitting.

Career Outlook

State law requires that only properly licensed plumbers be permitted to install and repair plumbing systems, and these services are in demand. Licensed plumbers are skilled mechanics versed in the theory and practice of installing hot and cold water supplies, drainage, venting and plumbing appliances in accordance with the state plumbing code and local ordinances. After completing this program, you may apply for an apprenticeship with the Milwaukee Area Plumbing Joint Apprenticeship committee. Candidates for apprenticeship are selected by the committee; program graduates are given good consideration for placement in an apprenticeship, but placement is not guaranteed.

Program Learning Outcomes

- Identify various piping materials and fittings
- Effectively utilize hand tools and power tools related to the trade
- Calculate various piping offset dimensions
- Sketch and read simple plumbing systems drawings
- Follow directions related to the trade

Admission Requirements

- A high school diploma or GED
- Course placement assessment of basic skills proficiency
- Shop practice and drafting learned either in school or in an employment setting
- Ability to drive and possession of a valid driver's license

Start Date: August

For Information

414-297-6315, matc.edu

SIXTEEN-WEEK TERMS

Credits

MATH-308	Math for Industrial Applications 1	2
PLUMB-300	Plumbing Theory 1	3
PLUMB-301	Applied Drawing for Plumbers 1	2
PLUMB-302	Plumbing and Piping Shop 1	3
PLUMB-308	Plumbing and Pipe Joining Process 1	2
PLUMB-310	First Aid/Safety in Plumbing	1
PLUMB-312	Computer Application/Plumbing	1
ENG-341	Applied Communications	2
MCDESG-120	Basic AutoCAD ‡	1
PLUMB-304	Plumbing Theory 2 ‡	3
PLUMB-305	Plumbing and Pipe Joining Process 2 ‡	2
PLUMB-306	Plumbing and Piping Shop 2 ‡	3
PLUMB-309	Applied Drawing for Plumbers 2 ‡	2

TOTAL CREDITS: 27

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Preparatory Plumbing classes held at MATC Education Center at Walker's Square, 816 West National Avenue, Milwaukee.

Quality Engineering Technology

ASSOCIATE DEGREE

Program Code: 10-623-9

Downtown Milwaukee and Oak Creek campuses

Students prepare to become technicians who ensure that products, components, materials and processes meet quality and safety standards in a wide range of industries, including manufacturing, pharmaceutical, electronics and food processing. Students learn various inspection and testing methods, processes and techniques to identify defects or deviations from specifications. Quality methods are emphasized that reduce waste and improve business/manufacturing processes. During the course of the program, students may elect to take the ASQ examination for Six Sigma Green Belt certification. Graduates also may choose to pursue certifications as a Quality Improvement Associate, Quality Process Analyst, and Quality Technician, also offered through ASQ (American Society for Quality).

Career Outlook

With trends toward quality across all facets of business, and the importance of international standards (ISO) more prevalent, the need has increased for well-trained quality assurance personnel.

Program Learning Outcomes

Employers expect graduates to:

- Apply total quality control concepts: inspection methods, data collection and application of sampling plans, quality cost and quality audits
- Apply appropriate problem-solving methodologies, such as Lean, Six Sigma, 8D
- Apply analytical mathematics including statistical techniques
- Analyze cost components to conduct opportunity assessment, cost/benefit analysis and project selection
- Assure quality systems are working and take corrective action through continuous improvement
- Characterize quality systems currently used in industry

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Demonstration of basic skills proficiency through a course placement assessment

Students should be proficient in using computer programs and the internet. Specific emphasis is placed on Microsoft Office applications including Word, Excel and PowerPoint. Students who are not proficient in these applications should take COMPSW-106 or CIVIL-105.

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) QETECH-118	Lean Principles	3
(1) QETECH-112	Engineering Specifications/Drawings 1	1
(1) QETECH-114	Metrology 1	1
(1) QETECH-116	Engineering Economic Analysis ‡	3
(2) BADM-104	Business Statistics ‡	3
	(or) MATH-260 Basic Statistics	
(2) QETECH-122	Engineering Specifications/Drawings 2 ‡	1
(2) QETECH-124	Metrology 2 ‡	1
(3) INTSUS-136	Sustainability	3
(3) QETECH-132	Six Sigma Green Belt 1 ‡	3
(3) QETECH-134	Six Sigma Green Belt 2 ‡	3
(3) QETECH-138	Introduction to Quality Engineering ‡	3
(4) QETECH-144	Supplier Quality Assurance ‡	3
(4) QETECH-142	Six Sigma Green Belt Project ‡	3
(4) QETECH-146	Quality Management Systems and Standards ‡	3
(4) QETECH-148	Quality Cost Analysis	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Mathematics 1 ‡	5
	(or) MATH-201 College Algebra	
MATH-116	College Technical Mathematics 2 ‡	4
	(or) MATH-202 Trigonometry	
NATSCI-137	Comprehensive Technical Physics	4
	(or) NATSCI-211 or NATSCI-221	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

MGDEV-188	Project Management
QETECH-152	Six Sigma Black Belt Tools and Concepts ‡
NATSCI-169	Energy in Nature, Technology and Society
COMPSW-106	Introduction to Microsoft Office
CIVIL-105	Computer Applications
MCDESG-162	Engineering Materials

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Quality Analyst, Quality Assurance Technician, Quality Inspector, Quality Manager, Quality Supervisor

Refrigeration, Air Conditioning and Heating Service Technician

TECHNICAL DIPLOMA

Program Code: 31-401-1

Oak Creek Campus

Learn how to service and install air conditioning, refrigeration and heating equipment. The curriculum includes air conditioning and refrigeration equipment for residential and commercial use. The operation, repair and installation of gas- and oil-fired heating units are also taught. Students should possess a high mechanical aptitude, manual dexterity, and good people skills. After completing this program, you may wish to consider pursuing an associate degree, or applying for an apprenticeship in steamfitting, refrigeration or environmental services.

Career Outlook

There is an ongoing need for refrigeration, air conditioning and heating technicians who have current training. Program graduates find employment in such entry-level positions as service people, steamfitter apprentices and sheet metal worker apprentices, and environmental service technicians.

Program Learning Outcomes

Employers expect graduates to:

- Read schematic drawings
- Understand operations of cooling systems
- Understand operations of heating systems
- Use refrigeration diagnostic equipment
- Diagnose and repair electrical problems

Admission Requirements

- Demonstration of proficiency in basic skills through a course placement assessment

A high school diploma or GED is recommended.

Related Programs

Air Conditioning and Refrigeration Technology,
Appliance Technician

SIXTEEN-WEEK TERMS

Credits

ELECTY-398	Electrical Circuits and Controls for HVAC/R	3
ELECTY-396	HVAC/R Electrical Systems ‡	2
HVAC1-350	Air Conditioning Principles	2
HVAC1-300	Basic Refrigeration and System Operations.....	4
HVAC1-325	Oil Furnace Service and Maintenance.....	3
HVAC1-332	Math for Heating, Ventilation, Air Conditioning and Refrigeration Servicing Technicians	2
SOCSCI-330	Applied Economics and Human Relations	1
HVAC1-301	Introduction to Refrigeration Servicing and Application ‡	4
HVAC1-326	Gas Furnace Servicing and Maintenance ‡	3
ELECTY-397	Electrical Wiring Methods for Air Conditioning and Refrigeration	1
HVAC2-148	Heat Pumps ‡	3
ENG-151	Communication Skills 1 ‡	3

TOTAL CREDITS: 31

‡ Prerequisite required.

Program curriculum requirements are subject to change.

Start Dates: August/January

For Information

414-297-6315, matc.edu



Possible Careers: Service Apprentice, Service Person, Steamfitter Apprentice, Sheet Metal Worker Apprentice, Environmental Service Technician

Sustainable Facilities Operations

ASSOCIATE DEGREE

Program Code: 10-481-2

Center for Energy Conservation & Advanced Manufacturing (ECAM) at Oak Creek Campus

Attain the skills to efficiently and effectively manage the total facility. In this Associate in Applied Science degree program, emphasis is placed on cost-effective energy options, direct digital controls, sustainable operations management, energy management systems, maintenance management, commissioning, and project management. Monitoring, control, reporting and presenting sustainability performance are covered; also LEED certification is given full treatment as part of the program. Potential for success will be enhanced if you have some work experience and/or a strong interest in sustainability and facilities management. You should also possess conceptual abilities, and problem-solving, computer and organizational skills.

Career Outlook

Projected employment for the field of sustainable facilities operations and management is very strong, and "greening" facilities operations provides many career options.

Program Learning Outcomes

- Reduce energy use in facilities
- Perform energy audits
- Develop and program a sequence of operations for various building systems
- Register and implement a LEED project
- Commission projects and systems
- Develop operating and capital budgets
- Measure and verify systems performance
- Demonstrate skills in basic business mathematics and communications
- Demonstrate energy and facilities management computer skills
- Develop computerized maintenance management systems
- Report and present data from performance measures
- Engage staff in a systematic continuous improvement program

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills proficiency through a course placement assessment

Start Dates: August/January

For Information

414-297-6315, matc.edu

TECHNICAL STUDIES

Credits

(1) SUSTN-102	Reporting and Presenting Systems Performance	3
(1) HVAC2-110	Air Conditioning Fundamentals.....	3
(1) HVAC2-132	Architectural and Mechanical Fundamentals	4
(2) SUSTN-100	Sustainable Facilities Operations.....	3
(2) SUSTN-105	The LEED Rating System	3
(2) SUSTN-111	Maintenance Management for Intelligent Facilities.....	3
(2) SUSTN-109	Intelligent Lighting Controls	3
(2) RBUS-111	Business Communications ‡	3
(3) SUSTN-104	Energy Auditing and Managing Energy Use	3
(3) SUSTN-103	Commissioning Process for Sustainable Energy Use.....	3
(4) SUSTN-101	Environmental Control Technician.....	3
(4) SUSTN-106	Measurement and Verification	3

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-113	College Technical Math 1A ‡	3
	(or) Any 200-series MATH course	
NATSCI-169	Energy in Nature, Technology and Society	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

ELECTIVES: SIX CREDITS NEEDED 6

TOTAL CREDITS: 64

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.



Possible Careers: Energy Technician, Facilities Manager, Energy Auditor, Energy Manager, Maintenance Supervisor, Building Manager

Technical Studies: Apprentice

ASSOCIATE DEGREE **Program Code: 10-499-5** All campuses

MATC's Technical Studies: Apprentice is an Associate in Applied Science degree program for students who have completed apprenticeships registered through the Wisconsin Bureau of Apprenticeship Standards. Advanced standing for this degree is based solely on your apprenticeship experience. Applicants must possess a Wisconsin Certificate of Apprenticeship or an apprenticeship recognized by the U.S. Department of Labor. With proper documentation, 32 selected credits will be awarded toward the associate degree.

Note that at least 25% of the total program requirements must be earned at MATC.

Admission Requirements

- A high school diploma or GED
- Demonstration of basic skills proficiency through a course placement assessment
- Minimum of 400 hours of related apprenticeship instruction in a Wisconsin Technical College System (WTCS) college or other accredited institution
- Interview with the program coordinator

Start Dates: August/January

For Information
Email: INDVTS@matc.edu



TECHNICAL STUDIES		Credits
INDVTS-102	Career Assessment and Portfolio Development.....	2
APPRENTICESHIP		32
A Wisconsin journey-level certificate from an apprenticeship program that included a minimum of 400 hours of paid, related instruction in a Wisconsin technical college or other accredited institution.		
STUDENT-SELECTED COURSES		11
Eleven credits of selected associate degree courses, relevant to your identified career goals. (Advanced standing for a maximum of these credits, calculated at one credit per 36 hours of instruction, will be granted for required apprentice-related instruction beyond the 400 hours of statutory minimum.)		
GENERAL STUDIES		
ECON-195	Economics.....	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡.....	3
(&) ENG-152	Communication Skills 2 ‡.....	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-107	College Mathematics ‡	3
	(or) MATH-113 College Technical Mathematics 1A	
	(or) Any 200-series MATH course	
NATSCI-167	Science of Technology.....	3
	(or) Any 200-series NATSCI course	
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	
TOTAL CREDITS:		66

‡ Prerequisite required.
Program curriculum requirements are subject to change.
A minimum of 25% of total program requirements must be earned at MATC.

Related Program: Individualized Technical Studies

Tool and Die Making

TECHNICAL DIPLOMA

Program Code: 32-439-1

Oak Creek Campus

This is a four-semester, full-time, day program. The first two semesters are common with the one-year Machine Tool Operations program. All courses within the first year are based on the National Institute for Metalworking Skills (NIMS) Machining Level One Skill Standards in nine separate skill areas. During the third and fourth semesters, students learn how to build and sample basic stamping dies and plastic injection molds.

Graduates earn a two-year technical diploma and are employable in the following career areas: mold making, stamping die making, jig and fixture building, tool-room machinist and precision machining.

Career Outlook

There is an ongoing need for highly skilled metalworkers. Tool and die makers, tool room machinists and mold makers are in high demand. MATC has an excellent placement record for its tool and die graduates.

Program Learning Outcomes

Employers expect graduates to:

- Set up and use basic tool room machines to work metal to close tolerances
- Correctly and precisely measure your work
- Interpret engineering drawings
- Perform mathematical computations typical of tool room applications
- Demonstrate basic knowledge of computer numerical control (CNC) programming and CNC machine tools used in tool and die making

Admission Requirements

- Demonstration of proficiency in basic skills through a course placement assessment

A high school diploma or GED is recommended.

Related Programs

Computer Numerical Control Machine Operator/
Programmer, Machine Tool Operations

SIXTEEN-WEEK TERMS

Credits

MACHTL-300	Engine Lathe 1	3
MACHTL-301	Engine Lathe 2 ‡	3
MACHTL-309	Manual Vertical Milling Machining 1	3
MACHTL-310	Manual Vertical Milling Machining 2 ‡	3
ENG-347	Communications 2	1
MACHTL-360	Metrology	1
MACHTL-367	Machine Tool Technology	1
MACHTL-384	Machine Trades Mathematics 1	1
MDRAFT-385	Machine Blueprint Reading 1	1
MACHTL-304	Introduction to CNC Programming ‡	1
MACHTL-320	Introduction to CNC Turning Centers ‡	4
MACHTL-322	Introduction to CNC Vertical Machining Centers ‡	4
MACHTL-325	Surface Grinding ‡	4
MACHTL-385	Machine Trades Mathematics 2 ‡	1
MACHTL-391	Quality Control ‡	1
MDRAFT-386	Machine Blueprint Reading 2 ‡	1
SOCSCI-330	Applied Economics and Human Relations	1
MACHTL-386	Machine Trades Mathematics 3 ‡	1
TDMKG-366	CNC Programming 2 ‡	1
MTLG-301	Basic Heat Treatment of Metals	1
TDMKG-360	Basic Die Making Technology	1
TDMKG-371	Stamping Die Making 1	4
TDMKG-372	Stamping Die Making 2	4
TDMKG-373	Stamping Die Making 3	4
MACHTL-387	Machine Trades Mathematics 4 ‡	1
TDMKG-361	Advanced Die Making Technology ‡	1
TDMKG-367	Basic CAD/CAM ‡	1
TDMKG-362	Cavity Die Technology	1
TDMKG-381	Moldmaking 1	4
TDMKG-382	Moldmaking 2	4
TDMKG-383	Moldmaking 3	4

TOTAL CREDITS: 66

‡ Prerequisite required.

Some courses run four or six weeks; see INFOOnline at matc.edu.
Program curriculum requirements are subject to change.

Start Dates: August/January

For Information

414-297-6315, matc.edu



Possible Careers: Mold Maker, Tool and Die Maker, Tool Room Machinist

Truck Driving

TECHNICAL DIPLOMA

Program Code: 30-458-1

Oak Creek Campus

As a graduate of this 10-week Truck Driving program, you will enter an industry in need of qualified workers. Developing skills related to safety, maintenance and the operation of trucks prepares you for entry-level positions as a local or over-the-road driver. The curriculum focuses on developing the student's backing and driving abilities through classroom, lab, range and roadway experiences; online resources also assist with developing skills. Students have the opportunity to attain Class A or B CDL (Commercial Driver's License) as a result of their training.

Career Outlook

Currently the need for qualified truck drivers remains high in Wisconsin. The demand for truck drivers is expected to continually increase due to the retirement of current drivers and the increased need for freight-carrying services.

Program Learning Outcomes

Employers expect graduates to:

- Drive a commercial vehicle safely
- Demonstrate knowledge of U.S. laws and regulations pertaining to the operation of a commercial vehicle
- Maintain and complete records properly
- Demonstrate the ability to plan trips and routes including managing cargo
- Inspect the vehicle to ensure safe operation
- Communicate effectively with peers, customers and supervisors
- Obtain a Commercial Driver's License

Admission Requirements

- High school diploma or GED
- Age 18 years or older
- Valid driver's license and acceptable driving record
- Department of Transportation medical exam and drug test

Related Programs

Automotive Maintenance Technician, Diesel and Powertrain Servicing

Start Dates: Call 414-571-4500

For Information

414-571-4500, matc.edu

TEN-WEEK TERM

Credits

TRCKDR-341	Truck Driver 1 ‡.....	4
TRCKDR-342	Truck Driver 2 ‡.....	3
TRCKDR-343	Truck Driver 3 ‡.....	3
TRCKDR-344	Truck Driver 4 ‡.....	3

TOTAL CREDITS: 13

‡ Prerequisite required.

Program curriculum requirements are subject to change.



Possible Careers: Local Truck Driver, Over-the-Road Truck Driver, Owner/Operator of Trucking Business

Welding

TECHNICAL DIPLOMA

Program Code: 31-442-1

Oak Creek and West Allis campuses

This two-semester program prepares you to perform production, maintenance and repair welding for manufacturing and construction. Learn about blueprints, equipment maintenance and the various welding processes and settings.

Ability to follow instructions, to visualize finished products based on blueprints, and to work independently are keys to success. Normal vision and good mechanical skills also are important. Graduates can receive advanced standing in MATC's Welding Technology associate degree program.

Career Outlook

Demand is very high for welders with up-to-date skills; new processes have created many job opportunities for welders with these abilities. Continued education can lead to careers in business ownership, quality assurance, engineering, sales, or education and training.

Program Learning Outcomes

Employers expect graduates to:

- Practice industry safety standards
- Set up and operate all welding and related equipment
- Troubleshoot and maintain equipment
- Utilize math and blueprint-reading skills
- Follow instructions and work with minimal supervision
- Communicate effectively
- Abide by daily work routine and regulations, and work cooperatively with co-workers
- Have pride in workmanship
- Have a good work ethic and good attendance

Admission Requirements

- A high school diploma or GED
- Demonstration of proficiency in basic skills through a course placement assessment

Related Program

Welding Technology

Start Dates: August/January

For Information

414-297-6315, matc.edu

EIGHT-WEEK TERMS

Credits

WELD-313	Shielded Metal Arc Welding	5
WELD-314	Gas Tungsten Arc Welding	5
WELD-351	Shielded Metal Arc Welding Processes	1
WELD-350	GTAW Processes	1
WELD-360	Blueprint Reading for Welders	2
WELD-380	Welding Trades Mathematics	1
WELD-315	Gas Metal Arc Welding Practices	5
WELD-316	Layout and Setup Practices	5
WELD-352	Gas-Shielded Arc Welding Processes	1
WELD-354	Layout and Print Reading Practices	2
SOCSCI-330	Applied Economics and Human Relations	1
ENG-347	Communication Skills 2	1

TOTAL CREDITS: 30

Prerequisite required.

Program curriculum requirements are subject to change.

Welding Technology

ASSOCIATE DEGREE

Program Code: 10-621-1

West Allis Campus

(Official WTCS title: Industrial Welding Technician)

This Associate in Applied Science degree program combines practical, theoretical and technical training in welding fabrication. Manual, semiautomatic and automatic processes using oxy fuel and arc processes are covered. Advanced courses deal with application of welding codes to develop the expertise needed to become a Certified Associate Welding Inspector or Certified Welding Inspector. Automation courses allow hands-on experience in setting up, programming, operating and troubleshooting computer-controlled cutting equipment and sensory-equipped welding robots.

This program is also offered in the evening to accommodate full-time day employment. The ability to follow instructions, visualize finished products based on prints, and work independently are key. Normal vision and good mechanical skills are important. Graduates of the program usually pass the AWS Certified Welding Inspector exam on their first attempt.

Career Outlook

Program graduates typically find employment as welding technicians, robotic welding technicians, quality assurance inspectors, technical sales reps and weld test conductors.

Program Learning Outcomes

Employers expect graduates to:

- Weld industrial alloys with arc processes
- Interpret and apply codes and specifications
- Interpret conventional and CAD-generated prints
- Inspect and test welders and welding procedures
- Set up, program, operate and troubleshoot automated equipment

Admission Requirements

- A high school diploma or GED
- One year of high school-level algebra
- Demonstration of basic skills proficiency through a course placement assessment

Related Program

Welding

Start Dates: August/January

For Information

414-297-6315, matc.edu



TECHNICAL STUDIES

Credits

(1) WELDT-101	Welding Theory 1	2
(1) WELDT-107	Fabrication Graphics.....	3
(1) WELDT-111	Welding Practice 1	4
(1) WELDT-181	Welding Technology Orientation.....	1
(2) WELDT-102	Welding Theory 2	3
(2) WELDT-105	Weldability of Materials ‡	3
(2) WELDT-112	Welding Practice 2 ‡.....	4
(3) MATRLS-102	Material Testing	3
(3) WELDT-113	Welding Techniques 1 ‡.....	3
(3) WELDT-140	Manufacturing Applications for Robots	4
(4) WELDT-114	Welding Techniques 2 ‡.....	3
(4) WELDT-135	Automated Welding Processes ‡	4

GENERAL STUDIES

ECON-195	Economics	3
	(or) Any 200-series ECON course	
ENG-151	Communication Skills 1 ‡	3
(&) ENG-152	Communication Skills 2 ‡	3
	(or) ENG-201 and any 200-series ENG or SPEECH course	
MATH-115	College Technical Mathematics 1 ‡.....	5
	(or) MATH-113 and MATH-114	
MATH-116	College Technical Mathematics 2 ‡.....	4
NATSCI-137	Comprehensive Technical Physics.....	4
PSYCH-199	Psychology of Human Relations	3
	(or) Any 200-series PSYCH course	
SOCSCI-197	Contemporary American Society	3
	(or) Any 200-series HIST or SOCSCI course	

SUGGESTED ELECTIVES: THREE CREDITS NEEDED

PHYED-210	An Active Approach to Wellness and Fitness
MATRLS-103	Nondestructive Testing
MATRLS-151	Metallurgy and Material Science

TOTAL CREDITS: 68

‡ Prerequisite required.

Program curriculum requirements are subject to change.

() = Semester order for full-time students.

Possible Careers: Quality Assurance Inspector, Robotic Welding Technician, Welding Technician, Weld Test Conductor

3D Solid Modeling

Downtown Milwaukee Campus

This advanced technical certificate provides Mechanical Design Technology associate degree students with an opportunity to gain training and skills beyond the technician design level. It also provides those already in the workplace with a mechanism for updating their skills. The technology in the industry is changing rapidly, requiring workers to continue their education if they wish to continue in key positions.

COURSES	CREDITS
MCDESG-114 SolidWorks 1 ‡.....	2
MCDESG-124 SolidWorks 2 ‡.....	2
MCDESG-133 Inventor 1 ‡.....	2
MCDESG-134 Inventor 2 ‡.....	2
MCDESG-135 PTC Creo (Pro/E) 1 ‡.....	2
MCDESG-145 PTC Creo (Pro/E) 2 ‡.....	2
TOTAL CREDITS:	12

Arboriculture

Mequon Campus

The courses in this certificate provide skills and knowledge necessary to be successful in the tree care profession. Students will gain hands-on training in tree climbing, pruning, tree removal, cable and bracing, tree care equipment, planting, tree and shrub identification, and plant health care. Students work with small and large trees, and safe work practices are emphasized. These courses prepare the student to obtain a Certified Arborist designation through the International Society of Arboriculture.

COURSES	CREDITS
HORT-127 Arboriculture I (Introduction to Tree Care).....	3
HORT-128 Arboriculture II (Climbing and Pruning).....	3
HORT-129 Arboriculture III (Rigging and Removal)	3
HORT-114 Woody Ornamental Plants.....	3
HORT-113 Ornamental Plant Health Care	3
HORT-171 Exterior Plant Pests.....	2
TOTAL CREDITS:	17

Basic Electronics

(Computer Multimedia Lab)

Downtown Milwaukee Campus

This certificate is part of the Electronic Technology department. The program requires 13 credits of interactive courses in MATC's computer multimedia lab. Students will learn about DC and AC electronics, digital electronics, electronic devices and circuits, and microprocessors.

COURSES	CREDITS
ELCTEC-115 DC and AC Electronics 1 – Interactive ‡	4
ELCTEC-117 Digital Electronics – Interactive ‡.....	3
ELCTEC-118 Electronic Devices and Circuits – Interactive ‡	4
ELCTEC-119 Introduction to Microprocessors – Interactive ‡	2
TOTAL CREDITS:	13

Basic Electronics (Core Curriculum)

Downtown Milwaukee Campus

This 12-credit certificate is part of the Electronic Technology department. The coursework includes hands-on lab work and projects in which theories of the topics studied are applied.

COURSES	CREDITS
ELCTEC-110 DC and AC Electronics 1 ‡	4
ELCTEC-120 Electronic Devices and Circuits ‡	4
ELCTEC-130 Digital Electronics ‡.....	3
ELCTEC-186 Fabrication Techniques ‡.....	1
TOTAL CREDITS:	12

Boiler Operator

Oak Creek Campus

Prepare for employment as a boiler operator or facilities maintenance mechanic. Mechanical aptitude is important for success. Courses are offered during the day with some evening sections. High school diploma or equivalent is required for admission.

Career Pathway

Credits earned can be applied toward completing the Power Engineering and Boiler Operator technical diploma.

COURSES	CREDITS
POWENG-330 Low-Pressure Boilers.....	1
POWENG-331 High-Pressure Boilers.....	2
POWENG-332 High-Pressure Boilers 2 ‡	1
TOTAL CREDITS:	4

Electrical Construction

Downtown Milwaukee Campus

Enroll in this specialized six-course certificate program to gain the skills to work in residential electrical construction. Basic electrical wiring, code fundamentals and other courses provide skills for working with wires, cables and home blueprints. All credits earned apply toward MATC's Electricity technical diploma program, providing a good start to a career with strong opportunities.

COURSES	CREDITS
ELECTY-308 Basic Skills for Electrical Wiring ‡	2
ELECTY-310 Cable Wiring ‡	2
ELECTY-312 Electrical Raceway Installation ‡	2
ELECTY-340 Electrical Code Fundamentals 1 ‡.....	2
ELECTY-378 Construction Blueprint Reading ‡.....	1
ELECTY-390 Principles of Electricity 1	3
TOTAL CREDITS:	12

Energy Engineering Technology

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

This program prepares students to understand energy measures and conversions, and their use in the sustainability of facilities. Topics include commission systems for new construction, and re-commission and retro-commission of existing buildings. The material covered will benefit students who are or want to become an energy manager, energy auditor, commissioning agent, LEED accredited professional and/or measurement and verification specialist.

COURSES	CREDITS
SUSTN-104 Energy Auditing and Managing Energy Use ‡	3
SUSTN-103 Commissioning Process: Sustainability and Energy Efficiency ‡.....	3
SUSTN-106 Measurement and Verification ‡	3
SUSTN-101 Environmental Controls Technician ...	3
TOTAL CREDITS:	12

‡ Prerequisite required. Program curriculum requirements are subject to change.

All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher. Certificate programs are not eligible for financial aid, and the student initiates the request for certificates upon completion of the requirements; consult an MATC advisor for details. Certificate programs start dates: August/January.

Energy Modeling

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

Energy modeling is the practice of using computer-based programs to model the energy performance of an entire building or the systems within a building. This certificate program explores the use of eQuest energy modeling software wizards, which assist with understanding a building's use of energy in interconnecting ways. This is an accelerated eight-week program that moves at a fast pace.

<u>COURSE</u>	<u>CREDITS</u>
SUSTN-108 Energy Modeling with eQUEST	3
TOTAL CREDITS:	3

Greenhouse Plant Production

Mequon Campus

Learn the science behind the horticulture to prepare for employment with firms having greenhouse operations. The course Ornamental Plant Health Care (HORT-113) prepares students for state certification in pesticide application, required in many commercial pest-control situations. Courses are offered at the Mequon Campus, which features a large greenhouse and extensively landscaped grounds for hands-on learning.

<u>COURSES</u>	<u>CREDITS</u>
HORT-134 Greenhouse Production – Fall Crops	3
HORT-152 Greenhouse Production – Spring Crops	3
HORT-159 Survey of Herbaceous Plants	2
HORT-113 Ornamental Plant Health Care.....	3
TOTAL CREDITS:	11

Industrial Electronics and Controls

Downtown Milwaukee Campus

The Industrial Electronics and Controls certificate is part of the Electronic Technology department. This 13-credit program covers digital electronics, microprocessors, DC and AC electronics and programmable controllers. Students perform laboratory experiments and prepare technical reports, and troubleshooting practices are emphasized in the coursework.

<u>COURSES</u>	<u>CREDITS</u>
ELCTEC-110 DC and AC Electronics 1 ‡.....	4
ELCTEC-130 Digital Electronics ‡.....	3
ELCTEC-140 Microprocessors ‡.....	3
ELCTEC-196 Programmable Controllers ‡.....	3
TOTAL CREDITS:	13

Land Surveying

Downtown Milwaukee Campus

In conjunction with an associate degree in Civil Engineering Technology, this advanced certificate meets the land surveyor registration educational requirements as defined in Chapter A-E 7 of the Wisconsin Administrative Code. The MATC Civil Engineering Technology program and its land surveying courses are approved by the Land Surveyor Section of the Wisconsin Examining Board of Architects, Professional Engineers, Designers and Land Surveyors.

<u>COURSES</u>	<u>CREDITS</u>
CIVIL-155 Surveying 1	2
CIVIL-156 Surveying 2 ‡	2
CIVIL-157 Route and Highway Surveying ‡	3
CIVIL-158 Land Surveying ‡.....	2
CIVIL-160 Legal Elements of Land Surveying ‡.....	3
CIVIL-161 Boundary Location ‡	3
TOTAL CREDITS:	15

Landscape Design Technology – CAD

Mequon Campus

Gain skills in drawing landscape plans with computer-aided design (CAD) programs. This certificate is designed for those working in the industry and looking to advance; it prepares students for a portion of the Association of Professional Landscape Designers (APLD) certification, so you can enhance your competitive edge.

<u>COURSES</u>	<u>CREDITS</u>
HORT-122 Landscape Design I	3
HORT-140 CAD Landscape Design 1	3
HORT-141 CAD Landscape Design 2.....	3
TOTAL CREDITS:	9

Law Enforcement

Oak Creek Campus

This program is open to MATC Criminal Justice – Law Enforcement program students only. Completion of academic and tactical curriculum coupled with scenario-based assessment will allow you to become eligible for certification through the Wisconsin Law Enforcement Standards Board. Students must complete all mandatory curriculum in POLICE courses 900-908, all of the Unified Tactics in the POLICE 170-176 courses, and a scenario-based assessment, as well as having no less than 60 total college credits, before obtaining certifiable status as a Wisconsin law enforcement officer.

Scenario-based assessments are usually held each semester after the tactical training is completed; there is a fee charged to participate.

Additional qualifications include:

- Student has completed all nine of the 900-908 courses with a grade of C (2.0 GPA) or higher. These courses must be completed in two years, as the tactical portions take one year to complete and the state will not extend the total training program beyond three years.
- Student has earned at least 45 college credits prior to application for entry. This must include the 27 credits earned in POLICE courses 900-908. The remaining 18 credits must be transcriptable college credit, not diploma or certificate credits.
- Possess a valid Wisconsin driver's license.
- Be legally able to handle or possess a firearm.
- Complete a medical exam that allows participation in vigorous physical activity.
- Undergo a criminal history/background check.
- Successfully pass a personal interview.

<u>COURSES</u>	<u>CREDITS</u>
POLICE-170 OMVWI/Standard Field Sobriety Test ‡.....	2
POLICE-171 Professional Communications ‡... (or) POLICE-903 Professional Communications	2
POLICE-172 EMS-LE/Hazardous Materials ‡	2
POLICE-173 Emergency Vehicle Operation ‡ ...	3
POLICE-174 Care and Use of Firearms ‡	4
POLICE-175 Defense and Arrest Tactics ‡	3
POLICE-176 Vehicle Contacts ‡.....	2
TOTAL CREDITS:	18

‡ Prerequisite required. Program curriculum requirements are subject to change.

All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher. Certificate programs are not eligible for financial aid, and the student initiates the request for certificates upon completion of the requirements; consult an MATC advisor for details. Certificate programs start dates: August/January.

Lean

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

The Lean certificate consists of one three-credit course. Topics include Value Stream Mapping, Layout, 5S Workplace Organization, Point of Use Storage, Visual Controls, Standard Work, Cellular and Flow Concepts, Lean Culture, Pull/Kanban Systems, and Total Productive Maintenance.

COURSE	CREDITS
QETECH-118 Lean Principles	3
TOTAL CREDITS:	3

Metallurgical Technician

Downtown Milwaukee Campus

Working to ensure the integrity of metals is a key element in the manufacturing process. Students will gain essential skills in this important function of industry through coursework that centers on material testing, statistical process control, principles of metallography and more. The labs and lectures offered through this certificate program provide a solid background in metallurgy that employers seek.

COURSES	CREDITS
MATRLS-102 Material Testing	3
MATRLS-105 Statistical Process Control	2
MATRLS-108 Principles of Metallography ‡.....	2
MATRLS-110 Fundamentals of Heat Treatment of Metals	2
MATRLS-151 Metallurgy and Material Science	3
TOTAL CREDITS:	12

Native Landscape Plants

Mequon Campus

With the current emphasis on sustainability, the ability to offer professional-level knowledge about native landscapes is a career builder for those interested in horticulture and landscaping. Students will learn how to restore, preserve or create a green space of plants, shrubs and trees native to this region. Classes start at MATC's Mequon Campus and continue as on-site field study in a variety of native plant communities and restorations in southeastern Wisconsin.

COURSES	CREDITS
HORT-163 Landscape Native Plants – Fall	3
HORT-193 Landscape Native Plants – Spring	3
TOTAL CREDITS:	6

Plant Health Care

Mequon Campus

Students who complete this certificate will have basic knowledge of proper plant growth, integrated pest management and soil conditions. Emphasis is placed on professional care techniques for landscapers and includes a course in state-certified pesticide applications. Classes are held at MATC's Mequon Campus, which offers outstanding landscaped grounds, a nursery and a large greenhouse for hands-on learning.

COURSES	CREDITS
HORT-112 Horticulture Soils	3
HORT-113 Ornamental Plant Health Care	3
HORT-125 Landscape Maintenance Application..	3
HORT-114 Woody Ornamental Plants.....	3
HORT-171 Exterior Plant Pests.....	2
TOTAL CREDITS:	14

Six Sigma Black Belt

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

This certificate consists of four courses. The first two cover the Green Belt body of knowledge in the Six Sigma problem-solving methodology. The third course is the implementation of a Six Sigma project. The fourth covers additional topics including business performance metrics, customer requirements, benchmarking, change management, design of experiments, and statistical process control.

Special admission requirements: MATH-260 or BADM-104, or previous statistics coursework is required to enroll.

COURSES	CREDITS
QETECH-132 Six Sigma Green Belt 1.....	3
QETECH-134 Six Sigma Green Belt 2.....	3
QETECH-142 Six Sigma Green Belt Project	3
QETECH-152 Six Sigma Black Belt Tools and Concepts.....	3
TOTAL CREDITS:	12

Six Sigma Green Belt

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

Six Sigma is applied in many industries including healthcare, manufacturing, business operations and service sectors. This certificate consists of three courses. The first two cover the Green Belt body of knowledge in the Six Sigma problem-solving methodology. The third course is the implementation of a Six Sigma project.

Special admission requirements: MATH-260 or BADM-104, or previous statistics coursework is required to enroll.

COURSES	CREDITS
QETECH-132 Six Sigma Green Belt 1.....	3
QETECH-134 Six Sigma Green Belt 2.....	3
QETECH-142 Six Sigma Green Belt Project	3
TOTAL CREDITS:	9

Sustainable Facilities Operations

Center for Energy Conservation and Advanced Manufacturing (ECAM) at Oak Creek Campus

This certificate is designed to prepare students to efficiently and effectively manage the total facility. Emphasis is placed on cost-effective energy options, direct digital controls, energy management systems and sustainable operations. LEED certification and renewable energy are covered in depth.

COURSES	CREDITS
SUSTN-100 Sustainable Facilities Operations.....	3
SUSTN-105 The LEED Rating System	3
SUSTN-102 Reporting and Presenting Systems Performances	3
TOTAL CREDITS:	9

‡ Prerequisite required. Program curriculum requirements are subject to change.

All credits in a certificate program must be earned at MATC with a 2.0 GPA or higher. Certificate programs are not eligible for financial aid, and the student initiates the request for certificates upon completion of the requirements; consult an MATC advisor for details. Certificate programs start dates: August/January.

COURSE DESCRIPTIONS/ALPHABETICAL LIST OF SUBJECTS

Each MATC course is identified by a grouping of two to six letters and a set of three numbers.

For example, in the course number **SOCSCI-149**, the letters **SOCSCI** form the alphabetical code that identifies the subject in which the course is taught. The sequence of courses in this Course Description section follows this alphabetic code.

Below you will find a list of the subjects and their alphabetic codes, along with the department numbers in parentheses.

The three numbers **149** identify the type of course – that is, the type of program in which the course is found. In this example, the course is an associate degree course. See the table on the right for the numerical range for each type of program.

Range

100-199	Associate Degree (A.A.S.)
200-299	Liberal Arts (A.A., A.S.)
300-399	Diploma
400-499	Continuing Education Credit
700-799	Adult High School
700-799	Basic Skills, ESL

Type of Credit/Hours Per Credit

College credit: 16 or more 55-minute periods of instruction, depending upon instructional methodology: lecture, lab, clinical, individualized instruction, on-the-job experience, distance learning (online, televised).

Diploma credit: 32 or more 55-minute periods of instruction, depending upon instructional methodology: related (lecture as related to practical applications), shop (practical applications), clinical, individualized instruction, on-the-job experience, distance learning (online, televised).

CEC credit: 36 55-minute periods of instruction. Note: CEC credit does not appear on MATC transcripts and is sometimes referred to as “noncredit.”

High school credit: 4,500 minutes of instruction (75 hours). See the School of Pre-College Education section for Adult High School course descriptions.

Noncredit/Developmental: up to 36 55-minute periods of instruction. See the School of Pre-College Education section for Basic Skills and ESL course descriptions.

ACCTG	Accounting (101)
ANIM	Animation (207)
ANTECH	Anesthesia Technology (541)
AODA	AODA Services (550)
APPSVC	Appliance Servicing (445)
ARCHT	Architectural Technology (614)
ART	Art (815)
AUDIO	Audio Production (701)
AUTO1	Auto Maintenance Technician (404)
AUTO2	Automotive Technology (602)
AUTOBY	Auto Collision Repair/Refinish (405)
AVITEC	Aviation Technician (402)
BADM	Business Administration (102)
BAKING	Baking (314)
BARCOS	Barber/Cosmetology (502)
CABMIL	Cabinetmaking and Millwork (409)
CARP	Carpentry (410)
CAS	Creative Advertising Strategist (201)
CHEMT	Chemical Technology (603)
CHILDD	Child Development (307)
CIVIL	Civil Engineering Technology (607)
CLABT	Clinical Laboratory Technology (513)
CNC	Computer Numerical Control (444)
COMART	Commercial Art (201)
COMPMC	Automated Manufacturing (628)
COMPSW	Computer Software (103)
CSG	Computer Simulation and Gaming (153)
CULART	Culinary Arts (316)
CULMGT	Culinary Management (317)
CVTECH	Cardiovascular Technology (521)
DENAST	Dental Assistant (508)
DENHYG	Dental Hygiene (508)
DIESEL	Diesel and Powertrain Servicing (412)
DIETNT	Dietetic Technician (313)
DLABT	Dental Laboratory Technology (507)
EBUS	eBusiness (135)
ECON	Economics (809)
EDF	Educational Foundations (809)
ELCTEC	Electronic Technology (605)
ELECTY	Electricity (413)
EMS	Emergency Medical Services (531)
ENG	English (801)
ENTREP	Entrepreneurship (145)
ENVHEL	Environmental Health (506)

EPROD	Eproduction (701)
FDRY	Foundry (415)
FIN	Financial Planning (114)
FIRE	Fire Science/Fire Technology (503)
FLANG	Foreign Language (802)
FOODS	Food and Nutrition (303)
FSTEC	Food Industry Manufacturing Technology (623)
FUNERL	Funeral Service (528)
GENCOL	General Studies-College Success (835)
GENST	General Studies (890)
GLOBAL	Global Services (140)
HEALTH	Health (501)
HIST	History (803)
HIT	Health Information Technology (530)
HORT	Horticulture (001)
HOTEL	Hotel/Hospitality (109)
HRMGT	Human Resources Management (116)
HSM	Healthcare Services Management (530)
HUC	Health Unit Coordinator (510)
HUMSVC	Human Services (520)
HVAC1	Air Conditioning, Refrigeration, Heating (401)
HVAC2	Air Conditioning/Refrig Technology (601)
HYDPNU	Hydraulics-Pneumatics Industrial (419)
INDMNT	Industrial Equipment Mechanic (462)
INDSGN	Interior Design (304)
INDVTS	Individualized Technical Studies (825)
INTP	Interpreter Technician (533)
INTSUS	Interdisciplinary Sustainability (490)
IT	IT General (107)
ITDEV	IT Programming/Development (152)
ITNET	IT Networking (150)
ITSEC	IT Security/Support (150)
ITSOC	IT Social Media/Digital Communication (151)
ITSUP	IT Support (154)
LOGMGT	Supply Chain Management (182)
MACHTL	Machine Tool (420)
MASON	Bricklaying and Masonry (408)
MATGEN	Mathematics General Studies (834)
MATH	Mathematics (804)
MATRLS	Materials Technology (613)
MCDESG	Mechanical Design Technology (606)
MDRAFT	Mechanical and Computer Drafting (421)
MEDAST	Medical Assistant (509)
MEDINT	Medical Interpreting (538)

MEET	Meeting and Event Management (109)
MGTDEV	Management Development (196)
MKTG	Marketing (104)
MLABT	Medical Laboratory Technology (513)
MTLGY	Metallurgy (422)
MUSIC	Music (805)
NATSCI	Natural Science (806)
NRSAD	Associate Degree Nursing (543)
NRSNA	Nursing Assistant (510)
NRSPN	Practical Nursing (543)
NURSED	Nursing/Health Unit Coordinator (510)
OFTECH	Office Technology (106)
OPTSCI	Optician - Vision Care (516)
OTASST	Occupational Therapy Assistant (514)
PAINT	Painting and Decorating (424)
PHARMT	Pharmacy Technician (536)
PHOTO	Photography (203)
PHYED	Physical Education (807)
PLEGAL	Paralegal (110)
PLUMB	Plumbing (427)
POLICE	Police Science/Criminal Justice/ Law Enforcement (504)
POWENG	Power Engineering (428)
PSYCH	Psychology (809)
PTASST	Physical Therapist Assistant (524)
QETECH	Quality Engineering Technology (623)
RADT	Radiologic Technology (526)
RBUS	Related Business (105)
RDIAT	Renal Dialysis (517)
RENEW	Renewable Energy (482)
RESPC	Respiratory Therapist (515)
RLEST	Real Estate (194)
SOCSCI	Social Science (809)
SPEECH	Speech Communication (810)
SURGT	Surgical Technology (512)
SUSTN	Sustainability (481)
TDMKG	Tool and Die Making (439)
TRCKDR	Truck/Commercial Driving (458)
TV	Telecasting (701)
VICOM	Visual Communications (206)
WELD	Welding (442)
WELDTG	Welding Technology (621)

ACCTG–ACCOUNTING**ACCTG-102 Credits: 3****Basic Office Accounting**

The basic structure of accounting is presented. Emphasis is placed on the recording, classifying and summarizing phases. Particular attention is given to procedures related to administrative assistant work, such as petty cash, payroll, bank reconciliation and accounting software.

ACCTG-110 Credits: 3**Financial Accounting**

A survey course stressing a user-oriented approach to basic financial statements, their content, format and use. Transactions, accounting principles and conventions are studied in terms of their effects on corporate financial statements. This course will not substitute for Accounting 1 (ACCTG-111) or Accounting 2 (ACCTG-113).

ACCTG-111 Credits: 4**Accounting 1**

Accounting concepts and general principles are integrated with applications by working through the complete accounting cycle for service and merchandising enterprises. Emphasis is placed on analysis and interpretation as well as on the recording, classifying and summarizing phases. A manual practice set provides practical experience using accounting theory.

ACCTG-113 Credits: 4**Accounting 2**

A continuation of Accounting 1, focusing on long-term assets, liabilities and accounting for partnerships and corporations. Financial statement analysis and the cash flow statement are also introduced. Students become familiar with accounting software by completing a computerized practice set. Prerequisite(s): ACCTG-111 (minimum grade C).

ACCTG-116 Credits: 3**Intermediate Accounting 1**

A study is made of advanced accounting practices and procedures. Emphasis is placed on accounting theory as it is related to income determination and balance sheet preparation for corporate commercial enterprises. Prerequisite(s): ACCTG-113 (minimum grade C).

ACCTG-117 Credits: 3**Intermediate Accounting 2**

A continuation of Intermediate Accounting 1, completing the study of advanced accounting practices and procedures. Prerequisite(s): ACCTG-116 (minimum grade C).

ACCTG-122 Credits: 3**Accounting Software Applications**

This class focuses on implementing computer functions in an accounting environment. It will cover structuring, organizing, manipulating and analyzing financial data through the use of Microsoft Excel and Access computer software. This course assumes that students have basic knowledge

of accounting. Students will have the option to take the Microsoft Office Specialist Certification in Excel for an extra fee.

ACCTG-123 Credits: 3**Individual Income Tax**

The determination of individual income taxes – including income, deductions, tax calculation, credits and payments – is studied. Tax forms are prepared both manually and using tax software.

ACCTG-124 Credits: 3**Business Income Tax**

A continuation of income tax laws as they apply to individual, partnership, S-corporation, C-corporation and fiduciary tax entities. Also covered are sales taxes, personal property taxes and transfer taxes (i.e., estate and gift taxes). Students will prepare tax forms related to these topics by completing practice cases, both manually and using tax software.

ACCTG-125 Credits: 3**Cost Accounting**

Primary focus is placed on cost accumulation in the job, process and standard cost systems. Emphasis is directed to specific forms, records, reports and procedures utilized in cost accounting, and the integration of cost accounting into the general accounting process. Prerequisite(s): ACCTG-111.

ACCTG-126 Credits: 3**Accounting for Managers**

Emphasis is placed on cost analysis, cost behavior and the uses of cost data in budgetary cost control, internal profit measurement, profit planning, capital budgeting and decision-making. This course makes extensive use of electronic spreadsheets.

ACCTG-130 Credits: 3**Computerized Accounting**

This introductory QuickBooks course takes students through the procedures, controls, inputs and outputs in today's computerized accounting systems. Students will be able to create a company file, process accounts receivable and accounts payable, manage time-tracking and payroll, track inventory and fixed assets, manage budgets, maintain ledgers and journals, and create reports. Students will have the option to take the QuickBooks Certification Exam for an extra fee. Prerequisite(s): ACCTG-102 or ACCTG-111.

ACCTG-140 Credits: 3**Accounting for Governmental and Nonprofit Entities**

This overview course in the areas of governmental and not-for-profit accounting covers the basic reporting requirements and objectives. The course discusses the identification of proper placement of entries in various funds; illustrates the proper types of entries for governmental, proprietary and fiduciary type funds; explains the governmental budget process and illustrates

the use of budgets in governmental entities; illustrates the proper format of the types of financial statements necessary for various funds; explains and contrasts fund type statements and government-wide statements; identifies proper accounting procedures related to federal government accounting requirements; and examines the specialized requirements of not-for-profit organizations and healthcare organizations. Prerequisite(s): ACCTG-110 or ACCTG-113.

ACCTG-142 Credits: 2**Payroll Accounting**

Procedures used in computing and recording wages and salaries, payroll taxes and deductions are studied. Alternative processing systems (manual, service bureau and microcomputer) are explored. Federal and state payroll and tax regulations are studied, in addition to preparing payroll tax and information returns.

ACCTG-143 Credits: 3**Payroll Accounting Applications**

This course is designed as an extension of ACCTG-142 Payroll Accounting. The student will develop skills in the computerized preparation of payroll records and filing requirements as required by federal and state law using specialized payroll software.

ACCTG-150 Credits: 3**Accounting Practice With a Systems Approach**

Using source documents and a manual practice set, students will review procurement and accounts payable, billing and accounts receivable, cash control and general ledger systems. Adjusting entries will be reviewed. Students will then use Peachtree software to complete an integrated case study with special emphasis on the general ledger, accounts payable, accounts receivable and payroll. Prerequisite(s): ACCTG-116.

ANIM–ANIMATION**ANIM-101 Credits: 3****Basic Drawing for Animators**

This course introduces students to the basic principles of drawing volume, shape and form in a digital environment. Students learn to color, construct and create animations in an industry standard software package. Students will explore digital painting, scene compositing, creating X-sheets, building character libraries, sync and adjusting timing as applied to animation filmmaking.

ANIM-102 Credits: 3**Introduction to Toon Boom Anim Pro**

This is a drawing course in which students learn to color, construct and create animations in an industry standard software package. Students will explore digital painting, scene compositing, creating X-sheets, basic lip sync, building character libraries, and adjusting timing as applied to animation filmmaking. Prerequisite(s): ANIM-101 and ANIM-104.

ANIM-104 Credits: 3

Principles of Character Development

This course will introduce students to character development as it relates to the field of computer animation. Concepts such as pose, expression, scale, and squash and stretch will be explored. Students will use hand drawing techniques and traditional cartoon-style characters. Students will also learn to bring their drawings into the computer to be adjusted, modified and enhanced with Photoshop.

ANIM-105 Credits: 3

Texture and Material Editing

This course will introduce students to the concepts and use of industry standard tools, such as Photoshop and ZBrush, for creating and editing textures and materials for use in 3ds Max.

ANIM-106 Credits: 3

Principles of 3D Animation

This introductory course will guide students through the concepts and techniques used to produce and animate virtual objects in a three-dimensional environment. Basic modeling, texturing and animation techniques will be covered using 3ds Max.

ANIM-110 Credits: 3

Digital Life Drawing

This will be an exploration of the figure through traditional and contemporary interpretations using a variety of drawing mediums available in Corel Painter. This is a purely digital class that utilizes Wacom Cintiq monitors.

ANIM-111 Credits: 3

Intermediate Digital Life Drawing

This course will continue to push students' abilities to capture the human form through quick sketching and gesture drawing. Students will draw, utilizing various mediums, in Corel Painter on their Wacom Cintiq monitors. Students will also complete themed one-hour drawings at the end of each class. Prerequisite(s): ANIM-110.

ANIM-114 Credits: 3

Storyboard Pro

This course focuses on planning for complex layered composites. Students will apply industry-standard storyboarding and scripting techniques to visual effects. Content to be covered include purposes and formats of storyboards, basic terminology and concepts used in storyboarding, and the application of storyboarding techniques to the creation of storyboards with or without a written script. Great emphasis will be placed on story. Students study the basic formats and film techniques that are utilized in storyboarding to create compelling work. All work must include scripting, timing, a variety of shots, acting, transitions and editing. Prerequisite(s): ANIM-101.

ANIM-115 Credits: 3

Refining the Character

In this course students will continue to add details, personality and life to their characters. Students will study the human form and the underlying muscular structure as well as body shape, exaggerating muscles, action poses and foreshortening. Prerequisite(s): ANIM-120 and ANIM-125.

ANIM-120 Credits: 3

Environment and Set Design

Students concentrate on the planning and construction of architectural and environmental forms to create sets and backgrounds for animation projects utilizing 3ds Max. Basic architectural principles as they relate to animation and appropriate effects for specific themes are explored, as well as landscape environments and atmospheric lighting effects, outer space lighting effects and weather effects. Class activities include using specialized software tools for architectural and environmental forms in the creation of thematic levels and sets. Prerequisite(s): ANIM-105 and ANIM-106.

ANIM-121 Credits: 3

Intermediate 2D Animation

This is a project-based course. Students will continue to develop their skills in character animation in the Toon Boom software as it relates to the field of traditional and digital 2D animation. Concepts such as layout, background layering, lighting, camera movement and timing of the scenes will be stressed. Students will be presented with a series of assignments dealing with the 12 Principles of Animation where they will demonstrate an ability to work collaboratively. Students will become proficient with the Toon Boom software while improving their knowledge and ability in traditional hand-drawn animation. Prerequisite(s): ANIM-101 and ANIM-104.

ANIM-124 Credits: 3

Animation Layout and Design

This course will introduce concepts and principles of layout design in 2D animation using a variety of assignments. Students will be expected to develop a working knowledge of one, two, three and four point perspective; use multiplane camera techniques; place characters/elements into a scene; use cuts, pans, trucks, shifts, zip-pans and more. Students will expand their knowledge of Toon Boom Animate Pro, Photoshop and hand-drawn techniques, while continuing to develop their skills in 2D animation. Prerequisite(s): ANIM-101 and ANIM-104.

ANIM-125 Credits: 3

3D Modeling

This course moves students into more complex modeling and surfacing challenges using 3ds Max. Specialized contemporary modeling techniques such as NURBS and subdivision (SUB-D) surface are explored,

as well as specialized shaders, displacement maps and other advanced surfacing options. Students complete the semester with the design and creation of a complex, multipart object correctly constructed, linked and boned for advanced animation techniques. Prerequisite(s): ANIM-105 and ANIM-106.

ANIM-130 Credits: 3

3D Simulations and Illustrations

This course will explore product and packaging design, medical illustration and mechanical illustration. The use of nontraditional shaders, such as toon shading, will be explored in order to achieve a more hand-drawn or illustrated look. Rendered output will also be manipulated with industry-standard image adjustment tools. Prerequisite(s): ANIM-120 and ANIM-125.

ANIM-131 Credits: 3

Advanced 2D Animation

An exploratory approach to more advanced animation skills. Students will be working with overlapping and secondary actions relating to the main movements of the characters, and exploring how to introduce better acting with their characters to support the message of the scene, as well as complex layering and compositing to support their short animations. Prerequisite(s): ANIM-121.

ANIM-133 Credits: 3

Advanced Conceptual Design

This course will continue to develop students' skills in character animation in the Toon Boom software as it relates to the field of traditional and digital 2D animation. Conceptual design that encompasses all aspects of animation theory and practices will be presented. Students will work toward conceptual design of the "whole show" – how the backgrounds, props and secondary characters all relate and support the main cast of characters. The class will use Toon Boom software and Photoshop to create the conceptual artwork. Prerequisite(s): ANIM-114.

ANIM-135 Credits: 3

Character Expression and Lip Sync

This class will explore the art of creating facial expressions and synchronizing a character's mouth movement with a voice track. Techniques range from traditional hand-drawn to 3D animation. Prerequisite(s): ANIM-115, ANIM-130 and ANIM-180.

ANIM-138 Credits: 3

Animation for Game Development

This course will take the student into the realm of game animations. Game animations are created to be "re-used" throughout a game environment. Students will be introduced to breaking movement down into cycles of animation and 2D sprites and developing basic background design as applied to game development. Game animation is different than animation created for television or film. Students will learn the differences and be able to apply

these theories to the games being developed within the CSG program. Prerequisite(s): ANIM-124 and CSG-115.

ANIM-140 Credits: 3

Timelines, Keyframes and Kinematics

This course continues from ANIM-125 3D Modeling. Students will explore and analyze character motion from several sources in order to accurately and believably replicate that motion with their digital characters. Also explores topics such as using inverse and forward kinematics during an animation using 3ds Max. Prerequisite(s): ANIM-180.

ANIM-141 Credits: 3

Acting for Animation/Lip Sync

The course will introduce students to concepts and principles of acting for animation and lip syncing utilizing Toon Boom Animate Pro. Students will be responsible for creating believable performances through lip syncing, full body animation, story principles, music, sound effects and composition. Students are introduced to concepts specific to acting for animation such as character motivation, story, plot, facial and full body expression sheets, demonstrating and broad readable acting. Prerequisite(s): ANIM-110, ANIM-121.

ANIM-145 Credits: 3

Intermediate 3D Animation

This course continues from ANIM-140 Timelines, Keyframes and Kinematics. Students explore and analyze mechanical and quadraped motion from several sources in order to accurately and believably replicate motion with digital objects and creatures. Students also explore topics such as various constraining techniques and automated approaches used during this type of animation using 3ds Max. Prerequisite(s): ANIM-140.

ANIM-150 Credits: 2

Advanced Animation

In this project-based course, students develop their own projects in consultation with instructors. Intensive studio time provides advanced students with large blocks of instructor and equipment access, and allows an in-depth study of particular aspects of digital animation that is of interest to the student. Group efforts are encouraged and detailed job-tracking is required. Prerequisite(s): Program completion through the third semester; also take one course from each group: ANIM-130 or ANIM-131, and ANIM-145 or ANIM-138.

ANIM-155 Credits: 2

Animation Internship

Students work on-site in a professional setting, or work on a specific task in consultation with a professional mentor. Regular reviews with a professional are scheduled to assess progress and work quality. Details of internship arrangements can be developed between the student and the participating company as long as specific

minimum course requirements are fulfilled.

Prerequisite(s): ANIM-115, ANIM-130, ANIM-140, and completion of or currently enrolled in ANIM-160.

ANIM-156 Credits: 3

Broadcast Animation

This course introduces students to the concepts of motion graphics using bitmapped imagery. Using the industry standard software, After Effects, students will explore animated composition techniques, along with comparison of 2D and 3D technologies widely used to produce animation for the television and video industries. Prerequisite(s): VICOM-150.

ANIM-160 Credits: 2

Animation Portfolio

Each student finalizes a series of 30-second to three-minute animated shorts demonstrating his/her capabilities. The collection is prepared for distribution to potential employers or to four-year animation degree programs. In addition, each student prepares a professional-level paperwork folio and a personal ID package (stationery, business cards, etc.) and is required to participate in the class preparation for the year-end departmental portfolio show in conjunction with other degree programs. Prerequisite(s): ANIM-115, ANIM-130 and ANIM-140.

ANIM-165 Credits: 3

Motion Analysis for Animation

See the course description on INFOnline at matc.edu.

ANIM-180 Credits: 3

Digital Cinematography

This is a comprehensive study of lighting and camera techniques based on professional practices in the traditional film and video industries. The course includes a detailed study of film, TV and video samples that guides students through their own exploration of digital light and cameras as they work through a series of assignments requiring certain effects in their digital sets and scenes. Prerequisite(s): ANIM-101.

ANTECH–ANESTHESIOLOGY

ANTECH-100 Credits: 1

Anesthesia Technology Career Exploration

Through lecture and lab, this course is designed to provide an exploration of the anesthesia technology field. During the class, students develop an understanding of healthcare practices required by an anesthesia technologist during a surgical intervention. Students will also take part in hands-on activities and learn from experts in the field. Students leave the course with information needed to make an informed decision about entering the anesthesia technology field.

ANTECH-102 Credits: 2

Introduction to Anesthesia Technology

This course introduces distinctive areas of anesthesia technology and the role of the technologist. An overview of typical surgical procedures and instrumentation, and surgical department orientation are covered as well as medical terminology, blood-borne pathogens and nonpatient related emergencies. Research papers on related topics and a group project will be required. Guest speakers and site visits to local healthcare/diagnostic facilities may be scheduled. Prerequisite(s): Admission to the Anesthesia Technology program (10-541-1).

ANTECH-117 Credits: 3

AT Fundamentals 1

Students are introduced to the surgical suite and the typical daily duties of an anesthesia technologist. Didactic as well as laboratory instruction are provided to supply the student with the required theoretical principles of the profession. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Admission to the Anesthesia Technology program (10-541-1), and NATSCI-177 or NATSCI-201.

ANTECH-118 Credits: 3

AT Instrumentation 1

The primary focus of this course is the anesthesia machine. However, all ancillary equipment, including but not limited to gas cylinders, hospital supply lines, ventilators and absorbers will also be covered. The setup, calibration, operation, basic troubleshooting, maintenance and safety checks for each is taught. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Admission to the Anesthesia Technology program (10-541-1).

ANTECH-120 Credits: 2

AT Clinical Procedures

This four-week course is the student's first opportunity to observe and gain experience in a health care facility. Twelve hours per week are scheduled in the hospital setting under direct supervision. Students will observe all procedures and may begin to assist in nondirect patient duties. Students experience various AT environments as scheduled. An additional four hours per week are required for on-campus lectures/discussions. Prerequisite(s): Admission to the Anesthesia Technology program (10-541-1).

ANTECH-133 Credits: 3

Anesthetics

The clinical importance of drug delivery is presented with an emphasis on the most commonly administered anesthetics, as well as other perioperative drugs. Additionally, the federal drug approval processes, various delivery methods, dose calculations and a review of the nervous system are presented. Prerequisite(s): ANTECH-120.

ANTECH-137 Credits: 3

AT Fundamentals 2

The concepts learned in ANTECH-117 will be expanded upon. Focus will be on the various types of surgical procedures, including emergency situation management and how the role of the anesthesia technologist varies in each. Patient transport, monitoring and positioning will be stressed. Prerequisite(s): ANTECH-120.

ANTECH-138 Credits: 3

AT Instrumentation 2

This course is a continuation of ANTECH-118 and expands upon the scope of anesthesia instrumentation. Various pieces of instrumentation such as cell savers, patient warmers, fluid warmers, ACT machines and pulse oximeters will be discussed. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): ANTECH-120.

ANTECH-139 Credits: 3

Anesthesia Technology Clinical Experience 1

This course presents students with their first opportunity in a direct patient care setting, while beginning to perform the duties of an AT. Students will be able to correlate their didactic and laboratory classes with the day-to-day duties of an anesthesia technologist. Prerequisite(s): ANTECH-120.

ANTECH-185 Credits: 2

Anesthesia Technology Clinical Seminar

Students discuss with other students the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the written journal detailing the clinical phase of instruction. This course will help to prepare students for the written examinations that will lead to credentialing in AT. Guest speakers may be scheduled. Résumé-writing and interview skills will be covered. Prerequisite(s): ANTECH-139.

ANTECH-186 Credits: 4

Anesthesia Technology Clinical Experience 2

This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting. A written journal detailing the clinical phase of instruction will be required. Prerequisite(s): Completion of or currently enrolled in ANTECH-185.

ANTECH-187 Credits: 4

Anesthesia Technology Clinical Experience 3

This course is a continuation of ANTECH-186 and provides the practical application to perfect skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with their clinical duties. A written journal detailing the clinical phase of instruction will be required. Prerequisite(s): ANTECH-186.

AODA–ALCOHOL AND OTHER DRUG ABUSE SERVICES

AODA-109 Credits: 3

Drug Use and Abuse

Students are acquainted with the pharmacological effects of chemical use/abuse. This course takes an analytic approach to identification, intervention, prevention and treatment issues.

AODA-150 Credits: 3

Professional Readiness and Ethical Responsibilities

This course is designed to familiarize the student with the obligations of an addiction counselor to adhere to accepted ethical and behavioral standards of conduct and continuing education. An emphasis on professional codes of ethics, federal and state laws, agency regulations and professional development is maintained.

AODA-151 Credits: 3

Clinical Evaluation and Treatment Planning

This course provides an overview of the key components of the evaluation and treatment planning processes, including the necessary knowledge base, skills and attitudes of the professional. This is also a practice-oriented course and students will participate in a variety of screening, assessment and treatment planning situations. Prerequisite(s): HUMSVC-102, HUMSVC-103 and HUMSVC-113.

AODA-152 Credits: 3

Service Coordination and Documentation

This course focuses on the administrative, clinical and evaluative activities that bring the client, treatment services, community agencies and other resources together to focus on issues and needs identified in the treatment plan. Documentation requirements and skills, record management and confidentiality issues are also a primary focus of the class. Prerequisite(s): AODA-109.

AODA-154 Credits: 3

Counseling Skills Development

This course provides instruction and practice opportunities to develop the specific skills necessary for counseling individuals, groups, families and significant others. These skills include establishing a helping relationship, interviewing, using methods that reinforce positive behavior, motivational techniques,

reframing and redirecting negative behaviors, crisis management and applying culturally appropriate intervention strategies. Prerequisite(s): HUMSVC-102, HUMSVC-103 and HUMSVC-113.

AODA-160 Credits: 1

Ethical Dilemmas

This course provides an opportunity for reflection and conversation about the ways in which personal and professional values impact work with clients. Emphasis is placed on exploring roles, rules and boundaries necessary for the helping relationship. An eight-step process for ethical decision-making will be explained and applied to select case examples.

AODA-161 Credits: 1

Treatment Issues

This course applies fundamental principles of the helping relationship to working with clients who have problems related to their substance use. Emphasis is placed on application of current treatment models in the areas of assessment, case management, education, professional responsibilities and counseling.

AODA-162 Credits: 1

Service Delivery Issues

This course focuses on issues related to delivery of substance abuse services to diverse population groups. Emphasis is placed on providing effective tools for the case management and coordination.

APPSVC–APPLIANCE SERVICING

APPSVC-308 Credits: 4

Electricity for Appliance Servicing

This course covers the fundamentals of electricity and electronics, including the elementary principles of direct and alternating current. Instruction consists of lectures that are immediately reinforced by laboratory experiments. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

APPSVC-310 Credits: 5

Laundry Equipment

This course covers the basics of the laundering process and the reasons for the various cycles. Functions of the mechanical and electromechanical components are isolated and explained. Applications of gas and electric drying heat are taught. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

APPSVC-316 Credits: 4

Kitchen Equipment 1

Operation of the dishwasher, compactor, and gas and electric range; their servicing; and diagnosis of problems are included in this course. Mechanical components and electrical circuits are described and illustrated. Electronic range controls are also covered. Prerequisite(s): Students must be admitted into the Appliance Technician program (31-445-1).

APPSVC-324 Credits: 4

Refrigeration 1 (Theory and Techniques)

This course covers the theory of refrigeration and refrigerants, the operation of a domestic refrigeration system, and the operating principles of the electrical controls used with refrigeration systems. Test instruments, service tools and refrigerant recovery are also covered. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

APPSVC-329 Credits: 1

Related Business for Appliance Service

This course is designed to orient the student to the nature and scope of the appliance technician's work, including meeting and working with customers, and it provides selected skills in business English and business practices. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

APPSVC-340 Credits: 4

Kitchen Equipment 2

Electric range and microwave circuits and the use of symbols are analyzed. Instruction and practical training are given in the reading of wiring diagrams used by service technicians. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

APPSVC-342 Credits: 5

Refrigeration 2 (Servicing)

Cabinets, evaporator servicing, and defrosting of refrigerators and freezers are covered. Refrigerator ice makers, their operation, servicing and electrical circuits are explained. Room air conditioners are included in-depth. Prerequisite(s): Student must be admitted into the Appliance Technician program (31-445-1).

ARCHT-ARCHITECTURAL TECHNOLOGY

ARCHT-101 Credits: 4

Architectural Theory and Drawing 1

Introduces the architectural process and the basic skills required of the technician, such as architectural lettering, freehand sketching and reading architectural drawings. Students are also introduced to the computer as a tool to be used in architectural projects.

ARCHT-102 Credits: 5

Architectural Theory and CADD 2

Students will be expected to continue developing their skills in architectural sketching. They will be introduced to the early stages of the design process, to the use of architectural reference materials and to presentation drawing techniques. In addition, they will be introduced to 3D architectural building information modeling software. The emphasis in drawing and detailing will be on wood frame and masonry construction systems. Prerequisite(s): ARCHT-101.

ARCHT-103 Credits: 5

Architectural Theory and CADD 3

Students are expected to continue developing their skills in architectural design, detailing, sketching and computer applications. They will further explore the design process and be introduced to site planning, and architectural design and development principles. The emphasis in construction documentation, detailing and building information modeling will be on commercial construction systems, such as reinforced concrete and steel. Computer work will include expanded applications for CADD modeling and presentation programs. Prerequisite(s): ARCHT-102.

ARCHT-104 Credits: 5

Architectural Theory and CADD 4

Students are expected to use the knowledge gained in previous courses in the development of a design project of their own choosing and the associated construction documentation. Students will be expected to use the computer in the development of at least 75% of this final project. Additional computer work will include integration and budgeting, estimating and specification writing assignments in ARCHT-141 Architectural Practices and Procedures. Prerequisite(s): ARCHT-103.

ARCHT-105 Credits: 2

Architectural History

This course offers an introduction to the field of architecture. An appreciation for architecture is developed through an overview of architectural history, and an analysis of architectural design and construction concepts that have been applied to buildings, from the Egyptian period through the present time and into the future.

ARCHT-106 Credits: 3

Estimating/Expediting/Scheduling

This course introduces students to three important aspects of construction project management: estimating, expediting and scheduling. Procedures and processes essential to the successful running and completion of construction projects are applied, using knowledge of materials and the methods of construction and estimating learned in this course and in previous courses. Prerequisite(s): ARCHT-122.

ARCHT-110 Credits: 2

Computer Applications for Architecture

This computer applications course is designed to provide students with word processing, spreadsheet, PowerPoint and internet skills used in the field of architecture. Additionally, the course is designed to introduce students to AutoCAD, and the interface of the software with the MS Windows environment and the internet.

ARCHT-120 Credits: 3

Structural Systems and Components

The main objective of this course is to identify structural systems and explain how

they function. Emphasis is placed on the relationship between component parts and the structure as a whole. This is accomplished through the use of descriptions, computations and analysis. Prerequisite(s): ARCHT-101.

ARCHT-121 Credits: 2

Architectural Materials and Methods 1

First in a series, this course identifies the eight classes of construction as defined in the Wisconsin Building Code and studies the attributes of materials available for constructing buildings. The course covers wood frame and heavy timber construction. Building materials studied include concrete, wood, plastics, insulation, moisture-protection devices, doors and windows.

ARCHT-122 Credits: 3

Architectural Materials and Methods 2

Second in a series, this course teaches the student the eight classes of construction and attributes of materials available for constructing buildings. It also covers masonry construction and metal frame construction. The building materials studied include masonry, metals, finishes, specialties, equipment and furnishings. Prerequisite(s): ARCHT-121.

ARCHT-131 Credits: 2

Mechanical and Environmental Systems 1

This course is an introduction to the broad field of mechanical systems as they relate to building design. It will provide students with the information and tools they require to assess the need for those systems in buildings. Emphasis is on understanding the fundamentals of heat transfer, thermal properties, building component locations, and the interrelationships of mechanical systems and buildings. Students will be expected to use the knowledge gained to read and interpret HVAC drawings. Prerequisite(s): ARCHT-102.

ARCHT-132 Credits: 2

Mechanical and Environmental Systems 2

This course is designed to teach students the basic concepts of plumbing, electrical illumination, fire protection and acoustical systems as pertaining to human comfort and safety in buildings. The student will develop the ability to produce architectural/mechanical drawings and to perform initial calculations for sizing water supply systems, electrical systems and lighting layouts. Prerequisite(s): ARCHT-103, ARCHT-131.

ARCHT-141 Credits: 2

Architectural Practices and Procedures

This course introduces students to the practice of architecture. It reviews, in some detail, the AIA documents and procedures used in the design and construction of buildings as the work proceeds through an architectural office, from initial design concept to construction documentation to final construction. Possible roles that the architectural technician plays in this process also is explored. Prerequisite(s): ARCHT-103.

ARCHT-150

Credits: 2

Introduction to Revit

This course introduces the student to 3D computer drafting and BIM (Building Information Modeling) using Revit software. It builds on student's base knowledge of industry-standard working drawings and construction materials as the basis for developing Revit models. The student will learn how to construct parametric drawings for a building or structure; including plans, elevations and sections, as well as axonometric views. Annotation strategies, such as dimensioning and text will also be covered. Employing title block templates and sheet composition, students will prepare industry-standard drawing sets for presentation. Prerequisite(s): ARCHT-101, CIVIL-102 or INDSGN-102.

ART

ART-201

Credits: 3

Understanding Art

A survey course with emphasis upon painting, sculpture and architecture. Major topics include art forms and styles, contributions and achievements of periods in the development of Western art and world art styles.

ART-279

Credits: 3

Artistic Representation: Unity and Variety

Students will apply traditional visual and sound techniques, as well as illustration techniques, to a variety of ideas and concepts. The course of study will include how media affect content and perception, how to critique media compositions and how to illustrate for specific themes.

AUDIO–PRODUCTION/TV AND VIDEO PRODUCTION

AUDIO-100

Credits: 1

Introduction to Music Software

This is a lab course introducing the basics of software programs Finale, Logic and Pro Tools in music composition, music production and audio recording, focusing on recording and manipulating midi and audio.

AUDIO-102

Credits: 3

Techniques of Sound Recording

Studio recording is the focus of this course. The increasing use of electronic amplifying/recording equipment in the field of music necessitates that the musician have basic knowledge of the hows and whys of sound and recording equipment. Microphone selection and placement, signal flow and signal processing during tracking and mixing process will have central focus in lecture and lab hours.

AUDIO-103

Credits: 3

Recording Live Concerts

This is a lecture/lab for the audio engineer, teaching the elements of professionalism, the technical aspects of signal flow, microphone

selection and placement, and mixing; specifically pertaining to live music.

AUDIO-111

Credits: 1

Advanced Music Software

Offers in-depth, practical study and application of current industry-standard digital audio workstation music software programs. Prerequisite(s): AUDIO-100 or MUSIC-113.

AUDIO-114

Credits: 2

Critical Listening of Sound/Music

Introduces ear training and critical listening from the perspective of the audio engineer including frequency recognition and contemporary production techniques. The student will learn to aurally analyze and identify contemporary popular song forms and production styles used.

AUDIO-116

Credits: 3

Advanced Technology of Sound Recording

This course builds on the knowledge of the Techniques of Sound Recording course. Emphasis is placed on creating stereo and surround sound, and mixing and mastering. Prerequisite(s): AUDIO-102 or MUSIC-154.

AUDIO-117

Credits: 3

Sound Reinforcement

Provides the student with both a theoretical and practical background in live sound reinforcement. Emphasis is placed on both indoor and outdoor sound reinforcement applications. The components of the sound system are examined in detail, and are used by the student in providing live sound for MATC concerts.

AUDIO-118

Credits: 2

Studio Management and Design

Covers the fundamentals of basic studio operations including: accounting, client relations, staff, advertising and equipment management. Strong emphasis is placed on scheduling, promotion, and marketing and interpersonal relationship communications. Also covered are the basic elements of studio construction room acoustics and project studio acoustic treatments. Prerequisite(s): AUDIO-116 or MUSIC-155.

AUDIO-120

Credits: 3

Audio Production for Film

This is a lecture/lab covering the issues of audio for film including ADR, Foley, library sound effects, sound effect creation and enhancement, field recording, managing sync dialog, environmental ambiance, and using music libraries and original music.

AUDIO-125

Credits: 1

Advanced Midi Recording

Course covers the development, implementation, theory and uses of midi equipment. The practical operation of several types of midi hardware and software is learned through lecture demonstrations and project assignments.

AUDIO-126

Credits: 2

Electronics of Audio Engineers

Students will learn the principles of electronic technology with an emphasis on applications to audio engineering, both in theory and practice.

AUDIO-127

Credits: 3

Interactive Audio

This course provides an introduction to the theory and practical approach to recording audio for gaming and web applications. Prerequisite(s): AUDIO-120.

AUDIO-128

Credits: 3

Final Project - Independent Study

This is the student's recording project; students may choose from any of the audio disciplines including in studio multi-track recording, live concert recording, sound for film, gaming or web interactive audio. From concept to completion, the student will notate, process and journal the details in creating the audio recording for this project. Prerequisite(s): AUDIO-118.

AUTO1–AUTO MECHANICAL

AUTO1-302

Credits: 2

Powertrain Maintenance

and Light Repair Fundamentals

The fundamentals of design, construction and operation of automotive engine and drivetrain components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and light repair of these units.

AUTO1-304

Credits: 4

Powertrain Maintenance and Light Repair Lab

Instruction is given in the diagnosis, inspection, maintenance and light repair of automotive engine and drivetrain components. Practical lab exercises are performed on late-model vehicles or lab mockups. Prerequisite(s): Completion of or currently enrolled in AUTO1-302.

AUTO1-306

Credits: 2

Heating and Air Conditioning Fundamentals

Construction and operation of automobile air conditioning systems are studied through lecture and demonstration. Service, repair, testing, diagnosis and recovery/recycling are performed on automobile conditioning systems. Upon successful completion of the CFC unit, a state certificate will be issued.

AUTO1-308

Credits: 2

Brake and Steering Suspension Fundamentals

The fundamentals of design, construction and operation of automotive brake and steering/suspension components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and repair of these units.

AUTO1-310 Credits: 4

Brakes and Steering Suspension Lab 1

Instruction is given in the diagnosis, inspection, maintenance and repair of automotive brake and steering/suspension components. Practical lab exercises are performed on late-model vehicles or lab mock-ups. Prerequisite(s): Completion of or currently enrolled in AUTO1-308.

AUTO1-312 Credits: 2

Brakes and Steering Suspension Lab 2

Construction, operation, service and testing of automotive safety restraint systems (SRS), steering column, electronic suspension and anti-lock brake systems are studied through lecture and demonstration. Service and testing will be performed on these components and on late-model vehicles. Prerequisite(s): Completion of or currently enrolled in AUTO1-308.

AUTO1-314 Credits: 2

Electrical and Electronic Fundamentals

The fundamentals of automotive electricity and the design, construction, and operation of automotive electrical and electronic systems and components are studied. Discussions, lectures and demonstrations pertain to the diagnosis and repair of these systems and units.

AUTO1-316 Credits: 4

Electrical and Electronic Lab

Instruction is given in the diagnosis, inspection and repair of automotive electrical and electronic systems and components. Practical lab exercises are performed on late-model vehicles or lab mock-ups. Prerequisite(s): Completion of or currently enrolled in AUTO1-314.

AUTO1-318 Credits: 2

Auto Instrumentation and Accessories

Construction, operation, service and testing of automotive instrumentation and accessories are studied through lecture and demonstration. Service and testing are performed on these components and on late-model vehicles. Prerequisite(s): Completion of or currently enrolled in AUTO1-314.

AUTO1-322 Credits: 2

Engine Control Systems 1 Fundamentals

The fundamentals of design, construction and operation of automotive engine control, ignition and fuel systems and components are studied. Discussions, lectures and demonstrations pertain to the diagnosis, maintenance and repair of these units. Prerequisite(s): AUTO1-316, AUTO1-318.

AUTO1-324 Credits: 4

Engine Control Systems 1 Lab

Instruction is given in the diagnosis, inspection and repair of automotive engine control, ignition and fuel systems and components. Practical lab exercises are performed on late-model vehicles or lab mock-ups. Prerequisite(s): Completion of or currently enrolled in AUTO1-322.

AUTO1-326 Credits: 2

Engine Control Systems 2 Fundamentals/Lab

The principles of operation, construction and servicing of emission controls are studied through lectures, discussions and demonstration. Service and testing techniques are performed on various automobile emission systems and components. Prerequisite(s): Completion of or currently enrolled in AUTO1-322.

AUTO1-393 Credits: 2

Electronic Fuel Injection Systems

Practical shop exercises in the diagnosis and servicing of electronic fuel injection systems are done on late-model vehicles. All techniques related to these servicing procedures conform to practices found in current trade situations.

AUTO2–AUTO TECHNOLOGY

AUTO2-150 Credits: 2

Automotive Fundamentals

This course provides a foundation for students entering the automotive service field. It prepares students to perform basic automotive maintenance, as well as learn service and test theory, parts room operation, predelivery procedures, and shop and tool safety. Prerequisite(s): Student must be admitted to Automotive Technology program (10-602-6).

AUTO2-151 Credits: 4

Electrical Systems and Power Accessories

An introductory course in automotive electricity and electronics. Direct current electricity, series and parallel circuits, and basic automotive electronics are covered. The course also covers battery operation and testing, as well as operating, testing and repairing of the charging and starting circuits.

AUTO2-152 Credits: 2

Heating and Air Conditioning

This course covers the design characteristics and principles of automotive heating and air conditioning. Emphasis is placed on the theory, operation, maintenance and repair of the systems. Also included are the various controls for the heating and air conditioning systems. Upon successful completion of the CFC unit, a state certificate will be issued.

AUTO2-153 Credits: 3

Alignment, Suspension and Steering

This course covers the design, construction and operation of suspension and steering systems, wheel alignment and wheel balancing. Also included are the diagnosis and repair of steering gears, rebuilding and aligning front ends, and wheel balancing.

AUTO2-154 Credits: 2

Fuel Management 1

This course covers fuel and emission control systems, with an emphasis on microprocessor control systems. Basic principles of carburetion, ignition and emission controls are covered.

AUTO2-155 Credits: 4

Fuel Management 2

This course continues to build upon the knowledge gained in Fuel Management 1, with an emphasis on solid-state electronics applied to engine electrical systems. Principles of design, construction and operation of electronic fuel injection systems are covered. Prerequisite(s): AUTO2-154.

AUTO2-156 Credits: 4

Fuel Management 3

This course is a continuation of Fuel Management 2, with an emphasis on the various injection systems. Diagnosis, disassembly, repair or replacement of injectors, injection pumps and fuel lines are covered. Prerequisite(s): AUTO2-155.

AUTO2-157 Credits: 4

Engine Concepts

This course covers the operating principles and construction of the automotive internal combustion engine. Included are the disassembly, cleaning, inspection, measurement, servicing and reassembly of the entire engine. This course also covers clutches, drivelines and manual transmission-transaxle.

AUTO2-158 Credits: 4

Transmission, Transaxles and Drivelines

This course covers the principles of operation and construction of clutches, manual and automatic transmissions and transaxles. Included are the diagnosis, disassembly, inspection, repairing and reassembly of transmissions and transaxles in current production.

AUTO2-159 Credits: 4

Automotive Brakes

This course covers the design, construction and operation of various brake systems. Included in this course will be the diagnosis, repairing or replacing of various components on disk and drum brake systems. Power assist units and anti-lock brake systems also are covered.

AUTO2-160 Credits: 4

Automotive Accessories

This course covers the design and operation of various automotive accessories. Diagnosis, repair and replacing of cruise control, windshield wiper motors and speedometers are covered.

AUTO2-161 Credits: 3

Express Service

This introductory course is designed to provide the fundamentals of operation and maintenance procedures including researching vehicle service information. Students will learn basic automotive shop safety, tool and equipment use. Upon completion of the course, students should be able to safely and accurately perform A1 - B1 vehicle inspection and maintenance service with efficiency and at 100% accuracy.

AUTO2-163 Credits: 3

Applied Automotive Training 2

This course covers various applications in automotive technology through on-the-job exposure. Students can choose automotive transmission, transaxle, drivelines, fuel management and engine concepts as their work assignment. Prerequisite(s): AUTO2-155, AUTO2-157, AUTO2-158.

AUTO2-164 Credits: 1

Automotive Internship 1

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete eight weeks of structured, on-the-job training in automotive electrical systems including starting and charging, preventative maintenance, and new and used vehicle inspection.

AUTO2-165 Credits: 1

Automotive Internship 2

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete eight weeks of structured, on-the-job training in automotive heating and air conditioning, front-end alignment, suspension and basic engine control systems.

AUTO2-166 Credits: 1

Automotive Internship 3

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete six weeks of structured, on-the-job training in automotive engine and driveline repair.

AUTO2-167 Credits: 1

Automotive Internship 4

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete eight weeks of structured, on-the-job training in automotive automatic transmissions/transaxles, and diagnosis and repair of electronic engine control systems.

AUTO2-168 Credits: 1

Automotive Internship 5

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete eight weeks of structured, on-the-job training in automotive braking systems, including anti-lock and automotive accessory network systems.

AUTO2-169 Credits: 1

Automotive Internship 6

The internship affords students an opportunity to reinforce newly acquired skills in an automotive repair environment, while simultaneously having the advantage of being supervised by a program instructor/coordinator. Students complete six weeks of structured, on-the-job training in automotive advanced electronic engine control diagnostics.

AUTOBY-AUTO COLLISION REPAIR/REFINISH

AUTOBY-300 Credits: 3

Introduction to Auto Body Fundamentals

The fundamentals of auto body safety regulations, damage analysis, unibody construction, component alignment, plastic filler application, welding and dinging sheet-metal damage are studied. Discussion, lectures and demonstrations pertain to these areas of auto body repair.

AUTOBY-301 Credits: 1

Automobile Sheet Metal Correction

The basic principles of design, construction and sheet metal characteristics are presented, along with procedures and techniques for automobile sheet metal repair in accordance with automobile construction.

AUTOBY-302 Credits: 2

Automobile Panel Straightening

Use of tools and equipment necessary to straighten sheet metal are explained and demonstrated. Students practice fundamental skills including picking, filing, dinging, shrinking and applying plastic body fillers.

AUTOBY-303 Credits: 1

Body Servicing Equipment and Supplies

Information is presented concerning the construction and use of power and manual equipment, fillers and finishes that are used in the repair of automobile bodies.

AUTOBY-304 Credits: 1

Basic Auto Mechanical Systems

This course is designed to develop the ability to interpret automobile drawings and to understand the relation between drawings, basic trade theory and shop operations.

AUTOBY-305 Credits: 5

Auto Body 1

Techniques of auto body repair are presented including safety regulations, damage analysis, unibody construction, component alignment, plastic filler application, welding and dinging sheet-metal damage. Practical lab exercises are performed on lab mock-ups or lab vehicles. Prerequisite(s): Completion of or currently enrolled in AUTOBY-300.

AUTOBY-310 Credits: 4

Auto Body Fundamentals

Students are provided further instruction in various repairs including work on unibody

construction; door locks and window regulators; aligning body components; wiring accessories; wet-sanding; and color mixing, blending and spraying. Trade safety regulations are emphasized. Discussions, lectures and demonstrations pertain to these areas of auto body repair. Prerequisite(s): AUTOBY-300.

AUTOBY-311 Credits: 3

Automobile Frame Straightening

Students become familiar with frame and unibody construction, tools and equipment through lectures and demonstrations of straightening techniques on damaged automobiles, using dedicated and universal bench measuring systems and conventional equipment. Shop safety is emphasized. Prerequisite(s): Completion of or currently enrolled in AUTOBY-310.

AUTOBY-312 Credits: 1

Electrical Servicing for Auto Body Repairing

Fundamental facts and principles of automotive electricity that apply to auto body repair are presented. Instruction covers such subjects as the storage battery, Ohm's Law and lighting, charging and ignition circuits.

AUTOBY-313 Credits: 1

Surface Preparation and Color Matching

Lecture-demonstrations acquaint students with sheet metal preparation and refinishing techniques. Students practice color matching new and weathered finishes as well as sanding, masking, feather-edging and applying undercoats, sealers and color coats. Prerequisite(s): AUTOBY-300.

AUTOBY-314 Credits: 1

Front-End Alignment

This course covers the diagnosis and correction of steering and alignment problems. Students are instructed in the construction and operation of front-end alignment and wheel-balancing equipment used to correct faults in front-end suspension systems.

AUTOBY-315 Credits: 5

Auto Body 2

Students are provided further lab experiences in various repairs including work on unibody construction; door locks and window regulators; aligning body components; wiring accessories; wet-sanding; and color mixing, blending and spraying. Trade safety regulations are emphasized. Practical lab exercises are performed on appropriate vehicles. Prerequisite(s): Completion of or currently enrolled in AUTOBY-310.

AVITECH-AVIATION TECHNOLOGY/AERONAUTICS

AVITEC-302 Credits: 2

Engine Fuel Metering Systems

Training is provided in the servicing of various types of fuel supply and fuel

metering systems. Skills are developed in overhauling, assembling and testing of fuel system components.

AVITEC-303 Credits: 5

Powerplant Electrical and Instrument Systems

Skills are developed in the removal, disassembly, inspection, overhaul, installation, adjustment and systematic troubleshooting of the complete powerplant ignition and electrical systems. Equipment manufacturers' service recommendations are stressed in the overhaul of electrical components.

AVITEC-304 Credits: 1

Aircraft Induction and Supercharging Systems

Training is provided in the servicing of various types of fuel supply and fuel distribution systems. Skills are developed in overhauling, assembling and testing of fuel distribution system components.

AVITEC-306 Credits: 2

Engine Lubricating Systems

The construction, function, operating principles and relationship of a complete engine lubrication system to the basic engine are emphasized.

AVITEC-315 Credits: 2

Aircraft Reciprocating Engines 1

Skills are developed and instructions given in the removal, disassembly, cleaning, inspection, repair, assembly, installation, testing and troubleshooting of aircraft engines. Emphasis is placed upon the correct application and use of engine servicing.

AVITEC-316 Credits: 4

Aircraft Reciprocating Engines 2

Students continue the development of skills and knowledge gained in the previous course, Aircraft Reciprocating Engines 1. Prerequisite(s): AVITEC-315.

AVITEC-318 Credits: 2

Aircraft Gas Turbine Engines 1

Training is given in the correct procedures and practices involved in the overhaul, inspection, maintenance, operation, testing, troubleshooting and servicing of gas turbine engines and their related accessory systems.

AVITEC-319 Credits: 5

Aircraft Gas Turbine Engines 2

Students continue the development of skills and knowledge gained in Aircraft Gas Turbine Engines 1. Prerequisite(s): AVITEC-318.

AVITEC-320 Credits: 4

Aircraft Electrical Systems

Instruction affords students an opportunity to apply basic electrical principles to problems encountered in the electrical servicing of airframes. Typical jobs performed are construction of simple/complex circuits and using test equipment to check them.

AVITEC-323 Credits: 3

Aircraft Ground Operation and Servicing

Students learn proper procedures for fueling, moving and securing aircraft. Also studied are proper cleaning and corrosion-control methods for aircraft.

AVITEC-340 Credits: 1

Aircraft Welding

Students study the various welding processes used to fabricate and repair aircraft parts. They also learn to silver solder, braze and weld aluminum and stainless steel used in aircraft.

AVITEC-360 Credits: 2

Propeller Systems

Training is provided in the removal, installation, routine inspection and maintenance of wood and metal propellers. Causes for rejection of wood and metal propeller types are explained, with attention given to FAA and manufacturers' publications.

AVITEC-367 Credits: 3

Composite Structures

The aircraft composite structure is separated into subassemblies and their related parts. Aircraft woods and fabric coverings are identified and repaired. Major emphasis is given to the maintenance and repair of composite structures and aircraft finishes.

AVITEC-368 Credits: 3

Aircraft Structures

The aircraft structure is separated into subassemblies and their related parts. Major emphasis is given to the maintenance and repair of sheet metal structures.

AVITEC-370 Credits: 5

Aircraft Instrument, Control and Warning Systems 1

The construction, operation and installation of the instruments present in aircraft are studied. Students then apply the knowledge of theory and operation of instruments to the typical jobs included in routine line maintenance.

AVITEC-371 Credits: 1

Aircraft Instrument, Control and Warning Systems 2

Students apply knowledge of theory and operation of instruments to typical jobs included in routine line maintenance. Prerequisite(s): AVITEC-370.

AVITEC-372 Credits: 4

Hydraulic and Pneumatic Power Systems

The principles of aircraft hydraulic and pneumatic systems are explained. The operation of hydraulic and pneumatic landing gear systems and wing flap systems are stressed. The construction and servicing of landing gear wheels, brakes, tires, shock struts and auxiliary wheels are emphasized.

AVITEC-376 Credits: 4

Airframe Maintenance

The methods and techniques of airframe assembly and disassembly are explained. The student learns to select and use FAA

and manufacturers' aircraft maintenance specifications, data sheets, manuals and publications and related federal aviation regulations.

AVITEC-380 Credits: 1

Basic Physics

The basic principles of simple machines, heat, sound and fluids are presented and applied to aircraft systems. Additionally, the theory of flight as applied to both fixed and rotary wing aircraft is studied.

AVITEC-381 Credits: 3

Basic Electricity

The basic principles of DC and AC electricity are presented and applied to aircraft systems. Topics include electron theory, sources of electricity and measurement of current, voltage, resistance and power.

AVITEC-382 Credits: 3

Aircraft Materials and Their Inspection

Emphasis is placed on the properties of materials used on aircraft and on their inspection. Also discussed are the various types of fasteners used. Time is also spent on fluid lines and fittings.

AVITEC-383 Credits: 1

Aircraft Maintenance Publications, Records and Mechanics Regulations

Students study the various federal air regulations that pertain to aviation mechanics and aircraft maintenance; they also learn the proper forms and methods of entry for aircraft records.

AVITEC-393 Credits: 2

Mathematics for Aviation Technicians

Students are given the mathematical skills necessary to successfully perform mechanic duties. Topics covered include roots, powers, exponents, areas, volumes, ratios, proportions, percentages, displacements and algebraic operations.

BADM–BUSINESS ADMINISTRATION

BADM-104 Credits: 3

Business Statistics

A general study will be discussed to interpret areas related to statistics in the business world. Topics include the interpretation and construction of statistical tables and charts, finding the best estimator of a population (including central values and measures of dispersion), normal distributions, sampling, hypothesis test, probabilities, six-sigma concepts utilized in quality control, and linear regression and correlations. The use of statistical software to facilitate will be discussed. Prerequisite(s): RBUS-102, MATH-106, MATH-107, MATH-123 or any 200-level MATH course.

BADM-110 Credits: 3

Business Communications With Technology

This course prepares students to communicate effectively in the digital age. Students will learn the various digital tools used in business communication and collaboration today. Students will demonstrate basic writing skills and grammar in the preparation of effective communications using the various digital communication tools. Tools will include email, Facebook, instant messaging, internet resources, LinkedIn, and other online communication tools. Students will also demonstrate effective presentation skills that utilize visual aids and digital tools.

BADM-126 Credits: 3

Business Finance

Primary emphasis is on the role of the financial manager. Special attention is given to ratio and financial statement analysis. The topics of budgeting, working capital management, leverage and short- and long-term financing are also covered. Prerequisite(s): ACCTG-110 or ACCTG-111.

BADM-134 Credits: 3

Business Organization and Management

This is an introduction to business, focusing on a basic understanding of activities, functions and principles of business enterprises. This course covers the responsibilities and challenges of operating a business. The emphasis is on human relations, management, marketing, finance, labor, franchising, forms of ownership and careers.

BADM-145 Credits: 3

Small Business Management

A concise examination is made of all phases of managing a small business and isolating significant problems for solution. Specific problems of the small business firm, such as financing, developing and staffing, are considered and analyzed. Prerequisite(s): BADM-134 or MKTG-102.

BADM-155 Credits: 3

Management Principles

A comprehensive overview of the functions and principles of management that lead to success in the operating climate of the new millennium. Prerequisite(s): BADM-134, BADM-126 or HEALTH-104.

BADM-160 Credits: 3

Business Law 1

An introduction to law and legal procedures based on case and statutory law. The course is designed to highlight areas such as torts, contracts, agency law, employment law, sales and insurance law.

BADM-165 Credits: 3

Legal Environment of Business

The course presents the legal concepts governing the conduct of business in the United States from a managerial perspective

including contracts, torts, agency and government regulations. The course is designed to provide students with an understanding of the legal process as it applies to managerial and other business problems. As legal rules frequently change, the emphasis will be on developing independent, critical thinking skills.

BADM-166 Credits: 3

Advanced Legal Issues

This course provides an introduction into various types of businesses. It also discusses financial transactions and the causes of bankruptcy. Employment law, property interests, bailments, wills, trusts and estates, and agency are included. Prerequisite(s): BADM-165.

BADM-169 Credits: 1

Public Health Law and Administration

The various governmental health agencies and their functions as they relate to funeral service are studied. The responsibilities of the funeral director with regard to public and employee safety in the funeral service environment are also discussed. Prerequisite: Admission to Funeral Service program (10-528-1).

BADM-192 Credits: 3

Risk Management and Insurance

This course provides an introduction to managing risks in order to maximize the value of a firm. An examination of the types of business loss exposures and their management, with a primary emphasis on insurance, are discussed in an applied approach.

BADM-198 Credits: 3

Business Internship

This cooperative training program involves actual work experience. Students obtain a position at an approved workstation and work a minimum of 144 hours under the supervision of a teacher-coordinator. Prerequisite: Completion of three semesters in the student's field of study and consent of advisor.

BAKING

BAKING-101 Credits: 3

Specialty Baking and Pastry Techniques 1

This course involves such learning experiences as the preparation of yeast rolls, breads, pies, cakes, cookies, tarts, doughnuts, holiday specialties and tortes. Proper use and care of equipment, together with sanitation and hygiene, are emphasized. Prerequisite(s): BAKING-119, BAKING-120, BAKING-122, BAKING-123, BAKING-124, CULMGT-112.

BAKING-102 Credits: 3

Hotel and Restaurant Dessert Production

This course covers the preparation and service of hot and cold desserts with focus on individual desserts, a la minute preparations and numerous components within one preparation. Students will

learn station organization, timing and service coordination for restaurant dessert production. Products made will include frozen desserts, ice cream, sorbet, glaces, individual plated desserts, and desserts for functions and banquets. During the course, students will develop a dessert menu from the perspective of variety, costs, practicality and how well it matches the rest of the menu. Prerequisite(s): BAKING-101, BAKING-125, BAKING-129, BAKING-130, CULMGT-105.

BAKING-103 Credits: 1

Decorative Showpieces

Detailed hands-on work is emphasized in the creation of decorative showpieces. Studies include ice sculpting, cake decorating and chocolate artistry. Prerequisite(s): CULART-102.

BAKING-104 Credits: 2

Fondant and Gum Paste

This course is designed to give students hands-on practice with advanced cake decorating using fondant and gum paste. Students will prepare single and tiered cakes using the fondant for decorating floral, modern and children's themed cakes, plus extensive work in the use of gum paste for a variety of floral arrangements that are used for wedding and all-occasion cakes. Prerequisite(s): BAKING-101, BAKING-125, BAKING-129, BAKING-130, CULMGT-105.

BAKING-105 Credits: 4

Cafe Operations 1

The course will help students learn techniques for a modern cafe in areas such as barista, pastry and bakery preparation, scratch soups and stocks, and front of the house training including learning industry software. These areas will be experienced in a working cafe/bistro, as this class will allow students to work in realistic experiences and integrate previously learned techniques into a business concept. Prerequisite(s): CULART-125, BAKING-102, BAKING-104.

BAKING-106 Credits: 2

Cafe Operations 2

This course is designed so students can utilize techniques learned in prior classes. Students learn to create sandwiches and seasonal fresh salads using recipes and techniques from bread-making classes and basic culinary scratch cooking. These techniques are implemented into a menu in a working bistro. Students will also experience creating composed desserts and pastries to order in a pastry bar format. Students will see a complete overview of how to manage customer service, the dining room and kitchen. Prerequisite(s): CULART-125, BAKING-102, BAKING-104.

BAKING-111 Credits: 2

Advanced Pastry Arts - Part 1

Provides students with comprehensive hands-on experience in pastry arts and decorative baking. Students will obtain the practical and theoretical training necessary to produce

BAKING

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

quality bakery products from scratch. An emphasis is placed on decorative pastry arts including cake decorating, basic sugar and chocolate work, gum paste, decorative breads, European-style pastries, ethnic breads and rolls. Students will learn all aspects of pastry techniques from product design to appropriate garnishes. Students will learn both hand-crafted and machine methods in the makeup of these products. This class is designed to offer industry professionals, and MATC culinary and baking students, a more advanced, specialized training in their field. Prerequisite(s): BAKING-102 and BAKING-302.

BAKING-112 Credits: 2

Advanced Pastry Arts - Part 2

This course provides laboratory practice in detailed decorative pastries. Students will obtain detailed hands-on training in the study of traditional and modern pastries, with emphasis on scratch baking. Practical experience is gained in organizing preparation procedures, selecting quality ingredients, mixing, scaling, baking, decorating, garnishing, and final presentation of product. Students will learn procedures for adjusting recipes and handling products for industry use. They will learn both hand-crafted and machine methods for small- and large-scale shops. This class is designed to offer industry professionals, and MATC culinary and baking students, a more advanced, specialized training in their field.

BAKING-119 Credits: 2

Retail Baking Operations

This course is used as a simulated bakery, with products being merchandised through a bakery storefront. Students are responsible for the service case presentation, as well as effective merchandising displays and customer service. Students will also identify various components of a profit/loss statement researching ingredient cost, learning small business accounting software. Students also identify labeling requirements according to federal laws.

BAKING-120 Credits: 3

Basic Baking Techniques/Bread Baking

This course introduces students to the fundamental concepts, skills and techniques of basic baking and yeast dough production. Special emphasis is placed on the study of ingredient functions, product identification, and weights and measures as applied to baking. Students will produce products from scratch, mixes/bases and frozen laminated doughs. Students will make products such as cookies, bars, muffins, quick breads, yeast breads, cake doughnuts and yeast raised doughnuts, plus seasonal items. Training is also given in a retail store setting.

BAKING-121 Credits: 3

Introduction to Bread Baking

This class introduces the fundamentals of yeast dough production. Emphasis is placed on the production of different kinds of yeast products with special attention being given

to the mixing methods and the control of fermentation. Students will learn techniques to implement yeast dough production and its outcomes; how different ingredients react with others; and how and why ingredients respond to temperature, friction and storage.

BAKING-122 Credits: 3

Baking Principles/Ingredient Functions

In this class, instructors will focus on the primary functions of ingredients in baked goods, with an emphasis on yeast raised dough, sponge dough, straight dough and modified straight-dough methods. Students are exposed to chemical, physical and biological leavening principles, as well as the understanding of the characteristics and functions of baking ingredients. Students will study formulas that work on scientific principles and their outcomes.

BAKING-123 Credits: 3

Cake Decorating, Icing/Pastry Bags

Practical training is offered in color design as applied to cake decorating. Practice is given in executing different tips, icings and pastry bag usage in a bakery setting. Students are exposed to icing cakes, decorating cakes using buttercream flowers, figure piping, and many seasonal products used in a production setting.

BAKING-124 Credits: 3

Scratch Baking

Students will obtain a basic familiarity with primary baking ingredients, have an overview of fermentation and dough production, be aware of the properties associated with producing chemically leavened bakery goods and specialty items, have an appreciation of formula balance, grasp the advantages and limitations inherent in scratch baking, and understand the production flow for various bakery products.

BAKING-125 Credits: 3

Artisan Breads

In this course, you will discover the fine science of bread. You will explore and learn about the reaction of yeast, air and liquid combining to become a living substance. You will be introduced to the characteristics and functions of flour, investigate the effects of flour on flavor, texture and the structures of well-known, classical and artisan breads. These include baguettes, sourdoughs, pumpernickel, foccacia, rye and ciabatta. Prerequisite(s): BAKING-119, BAKING-120, BAKING-122, BAKING-123, BAKING-124.

BAKING-126 Credits: 3

Individual and Production Pastry

This course will focus on the production, assembly, finishing and presentation of individual and production pastries. These pastries consist of different combinations of basic batters, fillings, glazes and icings, all about 2 1/2 inches in size. Students will produce them using several assembly and finishing methods to include shells, layered pastries, piped free-form, shaped free-form, and shaped and molded pastries.

BAKING-127 Credits: 3

Chocolate, Confections and Sugar Work

This course introduces students to the principles involved in producing a full range of chocolates and candies using a variety of centers including marzipan, ganache, gianduja sugar centers and jellies. Students learn to use both traditional and contemporary production methods in creating confections by hand and with special equipment. The class includes an introduction to the art of sugar work. Students will learn to properly cook, pour, pull and blow sugar to create artistic showpieces. Design, layout and color issues will also be covered. Prerequisite(s): CULART-125, BAKING-102, BAKING-104.

BAKING-128 Credits: 1

Baking and Classical Cakes

A review of creaming, foaming and blending techniques with an emphasis on preparing simple to complex unfilled cakes, filled cakes and tortes. Topics to be covered include comparison of classical and modern preparations; classical cakes such as gateaux, St. Honore, Doosh Torte, Linzer Torte and Sacher Torte; glazed, iced, molded and cream-filled cakes; tortes; and bombes.

BAKING-129 Credits: 2

Healthy and Natural Baking

This course studies the combination of the sciences of baking and nutrition. Students learn how to combine ingredients to produce finished products that will meet the criteria of taste and nutrition. Basic nutrition principles are reviewed to help students understand healthy baking. Students also study the chemical reactions taking place during the baking process and the formulas that are used. Prerequisite(s): BAKING-119, BAKING-120, BAKING-122, BAKING-123, BAKING-124, CULMGT-112.

BAKING-130 Credits: 1

Field Experience in Baking and Pastry Arts

Students work 216 hours as regular employees in baking and pastry arts. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility.

BAKING-135 Credits: 3

Baking for Culinarrians

This course is an overview of baking and pastry for culinary students. Students become familiar with baking ingredients, their properties and the way in which to scale and measure them. Producing everything from breads and rolls to cakes and pastries, students gain an appreciation for the contributions made by bakers and pastry chefs in food-service settings. Fundamental culinary principles covered include teamwork, professionalism, timing and organization, and safety and sanitation.

BAKING-301 Credits: 5

Baking Production 1

Training is given in the use of equipment, sanitation, use of frozen dough, bake-off products and seasonal products. Students are in a production setting where they are required to produce set amounts of products in a time frame. Seasonal items and special large-volume projects are assigned.

BAKING-302 Credits: 5

Baking Production 2

Training is given in the use of equipment; sanitation; use of dry mixes; breads, cakes and muffins; and scaling and shaping of products. Students are in a production setting where they are required to produce set amounts of products in a time frame. Seasonal items and special large-volume projects are assigned. Prerequisite(s): BAKING-301.

BAKING-303 Credits: 5

Baking Production 3

This is a practical shop course. Training is given in the use of equipment; sanitation; and scaling, mixing, shaping and handling of scratch bakery products. Students are in a production setting where they are required to produce set amounts of products in a time frame. Seasonal items and special large-volume projects are assigned. Prerequisite(s): BAKING-302.

BAKING-304 Credits: 5

Baking Production 4

This is a practical shop course. Training is given in the use of equipment and sanitation; products frozen, mixes and scratch are used in this lab. Students are in a production setting where they are required to produce set amounts of products in a time frame. Seasonal items and special large-volume projects are assigned. Prerequisite(s): BAKING-303.

BAKING-310 Credits: 1

Cake Decorating, Icing, Pastry Bags 1

Practical training is offered in Level 1 of color design as applied to cake decorating. Practice is given in executing different tips, icings and pastry bags in the bakery setting. Seasonal items and production items are prepared.

BAKING-311 Credits: 1

Cake Decorating, Icing, Pastry Bags 2

Practical training is offered in Level 2 of color design as applied to cake decorating. Practice is given in executing different tips, icings and pastry bags in the bakery setting. Seasonal items and production items are prepared. Prerequisite(s): BAKING-310.

BAKING-312 Credits: 1

Cake Decorating, Icing, Pastry Bags 3

Practical training is offered in Level 3 of color design as applied to cake decorating. Practice is given in executing different tips, icings and pastry bags in the bakery setting. Seasonal items and production items are prepared. Prerequisite(s): BAKING-311.

BAKING-313 Credits: 1

Cake Decorating, Icing, Pastry Bags 4

See course description on INFOline at matc.edu. Prerequisite(s): BAKING-312.

BAKING-314 Credits: 1

Cake Decorating/Icing/Pastry Bags 5

This course is designed to give students hands-on practice with advanced cake decorating and decorative pastry work. Students will learn to construct and ice wedding cakes with an understanding of portion and design. Advanced modeling is done in gum paste and rolled fondant designs; also covers advanced wedding cake assembly and decorating.

BAKING-321 Credits: 1

Frozen Dough Bake-Off

Students will learn to understand the basic advantages and limitations of a bake-off operation; know how to properly inventory, order, receive and store frozen dough products; understand the five basic steps for using frozen dough; grasp the importance of utilizing frozen bakery products; understand the fundamentals of proper preparation for the sale of frozen baked products; and comprehend the process of freezing, its advantages and liabilities, customer questions and suggestive selling.

BAKING-322 Credits: 1

Mixes/Bases

Students will learn to perceive the differences between mixes and bases; know each system's benefits and drawbacks; comprehend the flexibility or lack of flexibility in various mixes and bases; understand the need to control product spoilage or products getting stale; comprehend the basic causes of the loss of product freshness; understand the methods utilized to assure retention of freshness; and understand the purpose of merchandising techniques in service cases, self-service displays and consolidation.

BAKING-323 Credits: 1

Scratch Baking

Students will obtain a basic familiarity with primary baking ingredients, have an overview of fermentation and dough production, be aware of the properties associated with producing chemically leavened bakery goods and specialty items, have an appreciation of formula balance, grasp the advantages and limitations inherent in scratch baking, and understand the production flow for various bakery products.

BAKING-324 Credits: 1

Bakery Management

Through this course, students will learn the importance of training and team building, comprehend the basic technique of product costing and profit determination, be familiar with the concepts of scheduling personnel and production, be informed as to the need for and control of inventory, and understand the importance of product labeling and the correct labeling procedures.

BAKING-330 Credits: 1

Bakery Systems

Students will learn to appreciate the differences among the five basic systems, know the advantages and limitations of each system type, contrast levels of equipment and labor inherent in each system, understand the basic usage of major equipment and the important operating parameters of each equipment type, understand the use of promotions to stimulate sales and the function of specialty theme promotions, and be aware of monthly promotional concepts.

BAKING-331 Credits: 1

Baking Internship

Opportunity to gain on-the-job training related to the Baking Production program. Activities are coordinated between the baking industry and student by the MATC coordinating instructor. Prerequisite(s): Completion of or currently enrolled in BAKING-304, BAKING-313 and BAKING-324.

BAKING-340 Credits: 3

Professional Baking

Practical laboratory experience in the preparation of professional-quality baked goods. Examine and make frozen/bake-off, mixes/bases and scratch bakery products. Use full-scale industry equipment and techniques while utilizing hands-on skills, weight system and makeup procedures. Short-sleeved shirts, aprons and hair restraints are provided.

BARCOS–BARBER-COSMETOLOGY

BARCOS-101, BARCOS-102, BARCOS-103, BARCOS-104, BARCOS-105, BARCOS-106, BARCOS-107, BARCOS-108, BARCOS-109: See course descriptions on INFOline at matc.edu.

BARCOS-300 Credits: 2

Shampoo and Scalp Treatments

Presents the theory of and practical skills in hair/scalp cleansing techniques, scalp massage therapy and professional products for various hair and scalp conditions, including hair pieces and goods. Students practice shampooing, massage and conditioning techniques during class on classmates and on hair goods.

BARCOS-301 Credits: 2

Men's Haircut 1

Introduces the basic fundamental skills and related theory of men's haircutting techniques, including the use of shears and clippers. The theory of shaving is presented. Students practice cutting tapers, fades, natural afros and other haircuts on mannequins, models and hair goods.

BARCOS-302 Credits: 2

Women's Haircut 1

Introduces the theory of and related practical skills for cutting women's hair using

shears and razor. Thinning techniques are presented. Students practice hair cutting and thinning techniques on mannequins, available models and hair goods.

BARCOS-303 Credits: 2

Men's Haircut 2

Offers advanced men's haircutting methods and techniques using shear-over-comb and clipper techniques. Students practice haircutting skills on models and classmates. MATC strongly recommends that students complete BARCOS-301, or have equivalent skills, prior to enrollment in this course.

BARCOS-304 Credits: 2

Permanent Wave

Introduces the theory of and practical skills for permanently curling/waving naturally straight or wavy hair. Students practice winding permanent wave rods in sectioning patterns with chemical application on a mannequin and available models.

BARCOS-305 Credits: 2

Women's Haircut 2

Offers advanced women's haircutting techniques and methods to create haircuts with varying types of guidelines, weight lines, bangs and fringes. Speed and efficiency are encouraged. Students practice haircutting skills on available models and classmates. MATC strongly recommends that students complete BARCOS-302, or have the equivalent skills, prior to enrollment in this course.

BARCOS-306 Credits: 2

Esthetics 1

Introduces theory of and practical skills in skin care, such as massage techniques, eyebrow shaping, cosmetics, makeup application and correction. Students practice skills on classmates.

BARCOS-307 Credits: 1

Esthetics 2

Students continue to build upon skills taught in Esthetics 1. Students practice advanced skills in facial treatments including facials for specific conditions – oily, mature, dehydrated. Also covers techniques and benefits of high frequency and galvanic current, corrective makeup and facial hair removal. Prerequisite(s): BARCOS-306.

BARCOS-308 Credits: 2

Nail Services

Introduces the theory of and practical skills in manicuring and pedicuring, including nail art and massage of the hand/arm and foot/leg. Students practice giving manicures and pedicures on classmates.

BARCOS-309 Credits: 2

Chemical Relaxing

Introduces the theory and practical skills for chemically relaxing naturally curly hair for first-time and retouch applications. Students practice application techniques on mannequins and available models.

BARCOS-310 Credits: 2

Hair Tinting

Theory of and basic application procedures of adding artificial hair color to natural hair using temporary, semi-permanent and permanent products. Students practice applying professional hair coloring products on mannequins, models and hair goods.

BARCOS-312 Credits: 1

Advanced Color

This course presents the advanced practical skills for removing natural hair color using hair lightening services. Students practice lightening techniques with cap and weaving, lightening and freehand techniques on mannequins, available models and hair goods. MATC strongly recommends that students complete BARCOS-310, or have the equivalent skills, prior to enrollment in this course.

BARCOS-313 Credits: 1

Hair Color Correction

This course provides for the expansion of practical skills required for lightening hair by retouch and first-time processes; successful hair color correction is addressed. Students observe real-life hair lightening and color corrections, and practice on models and mannequins. MATC strongly recommends that students complete BARCOS-312, or have the equivalent skills, prior to enrollment in this course.

BARCOS-314 Credits: 2

Hairstyle 1

Introduces artistic foundations in theory and practical wet-hair styling in roller placement, hair wrapping, blow drying, thermal iron curling, thermal pressing. Students practice skills on mannequins, hair goods, classmates.

BARCOS-315 Credits: 2

Hairstyle 2

Presents wet-hair styling theory and practical skills for fingerwaving and pincurling. Students practice various pincurling and fingerwaving patterns on mannequins, available models and hair goods.

BARCOS-316 Credits: 1

Advanced Style

Advanced techniques in long hair design, such as up-dos and braids including French twist, Gibson, French braids and inverted French braids, are practiced on mannequins, long hair models and hair goods.

BARCOS-317 Credits: 1

Barber/Cosmetology Theory

Presents foundational theoretical concepts in microbiology and decontamination, general chemistry, micro-hair structure and anatomy as related to the profession. Students participate in large- and small-group activities, individual work in class activities and/or online.

BARCOS-318 Credits: 1

Barber Theory 3

This course presents the theory related to practical subjects: men's hair replacement

methods and hair goods, electricity and light therapy. Students participate in small and large group activities, in class and internet assignments.

BARCOS-319 Credits: 1

Natural Hair Care and Braiding

Students learn how to care for natural, curly/extremely curly textured hair; the history of African hair braiding and basic braiding techniques; and apply skills learned on manikins and available models.

BARCOS-320 Credits: 1

Client Services 1

This course offers opportunities for professional practice of developing skills in a salon-like environment. Students shampoo, cut, condition, color, roller set and blow dry/iron curl and thermal press client hair under the direction of the classroom instructor. Students gain receptionist skills. Sanitation and safety are stressed. MATC strongly recommends that students complete BARCOS-300, BARCOS-301, BARCOS-302, BARCOS-304, BARCOS-309, BARCOS-310, BARCOS-314 and BARCOS-315, or have the equivalent skills, prior to enrollment in this course.

BARCOS-321 Credits: 1

Hair Extensions

Students learn how to add hair extension to hair and to braided styles, and apply skills learned on manikins and available models.

BARCOS-322 Credits: 2

Barber/Cosmetology Theory 5

Students learn electricity and light therapy, anatomy and physiology, cells and their structure and function, and law. The final portion of this class is the review for the practical and written phases of the state board exam. MATC strongly recommends that students complete BARCOS-321, or have the equivalent skills, prior to enrollment in this course.

BARCOS-323 Credits: 1

Client Services 2

This course offers students the opportunity to practice and advance professional skills as learned in the classroom. Students practice specific professional skills on clients in a salon-like environment under the direction of the classroom instructor. Students perform receptionist duties. Sanitation and safety are stressed. MATC strongly recommends that students complete BARCOS-300, BARCOS-301, BARCOS-304, BARCOS-309, BARCOS-310, BARCOS-314 and BARCOS-315, or have the equivalent skills, prior to enrollment in this course.

BARCOS-324 Credits: 1

Business Skills for Barber/Cosmetologists

Introduces verbal and nonverbal communication concepts with emphasis on professional writing and speaking skill development. Students write a résumé, make presentations, practice job interviewing and make positive public contacts.

BARCOS-326 Credits: 1

Client Services 3

This course offers students the opportunity to practice and advance professional skills as learned in the classroom. Students practice specific professional skills on clients in a salon-like environment under the direction of the classroom instructor. Students perform receptionist duties. Sanitation and safety are stressed. MATC strongly recommends that students complete BARCOS-300, BARCOS-301, BARCOS-304, BARCOS-309, BARCOS-310, BARCOS-314 and BARCOS-315, or have the equivalent skills, prior to enrollment in this course.

BARCOS-327 Credits: 1

Client Services 4

This course offers students the opportunity to practice and advance professional skills as learned in the classroom. Students practice specific professional skills on clients in a salon-like environment under the direction of the classroom instructor. Students perform receptionist duties. Sanitation and safety are stressed. MATC strongly recommends that students complete BARCOS-300, BARCOS-301, BARCOS-304, BARCOS-309, BARCOS-310, BARCOS-314 and BARCOS-315, or have the equivalent skills, prior to enrollment in this course.

BARCOS-328 Credits: 1

Client Services 5

This course offers students the opportunity to practice and advance professional skills as learned in the classroom. Students practice specific professional skills on clients in a salon-like environment under the direction of the classroom instructor. Students perform receptionist duties. Sanitation and safety are stressed. MATC strongly recommends that students complete BARCOS-300, BARCOS-301, BARCOS-304, BARCOS-309, BARCOS-310, BARCOS-314 and BARCOS-315, or have the equivalent skills, prior to enrollment in this course.

BARCOS-329 Credits: 1

Basic Artificial Nail Concepts

Offers the advanced theory of and practical skills development in artificial nail application and removal. Students observe chemical applications, and practice on classmates and artificial nails.

BARCOS-330 Credits: 2

Business Management Skills for Barbers/Cosmetologists

Introduces the fundamental knowledge required for lawful and effective salon practice and management, including Wisconsin state laws and regulatory rules. Students practice developing skills in large- and small-group work.

BARCOS-331 Credits: 3

Business Management - Barber/Cosmetologist Manager

This course offers Wisconsin-licensed practitioners, nail technicians and

aestheticians concepts in basic human resource management and business economics. Students practice applying concepts in small- and large-group activities, such as discussions, case studies and hypothetical professional salon settings.

BARCOS-332 Credits: 3

Communications - Barber/Cosmetologist Manager

Offers Wisconsin-licensed practitioners, nail technicians and aestheticians concepts and training principles in leadership and supervision. Students practice applying concepts in small- and large-group activities, such as discussions, case studies and hypothetical professional salon settings.

BARCOS-333 Credits: 3

Barber/Cosmetologist Instructor Techniques - Part 1

This course is designed to develop the knowledge and skills required to teach barbering and cosmetology. It covers communication, adult learning styles, developing lesson plans and presentation styles, using audio-visual equipment, and questioning techniques. Emphasis is placed on the development and presentation of state board lesson plans, as well as time outside of course hours for observation. Basic computer skills are required. A valid Wisconsin barber/cosmetology manager's license or practitioner's license for a minimum of two years is required. Prerequisite(s): Satisfactory MATC placement test score.

BARCOS-334 Credits: 3

Barber/Cosmetologist Instructor Techniques - Part 2

Instruction focuses on development of evaluation tools for classroom use, analyzing and development of classroom management techniques, the use of copyright laws in developing educational material, and writing a résumé and cover letter. The safe use of products and chemicals used in the industry/classroom is studied and stressed. The student will develop theory and practical lesson plans to present in the classroom under the supervision of a licensed instructor. Prerequisite(s): BARCOS-333.

BARCOS-335 Credits: 3

State Board Review

Presents a review of the theory and practical skills acquired throughout the program. Prepares students for successful completion of the Wisconsin barbering and cosmetology professional licensing exam. Students pack an exam kit, work through a mock examination and complete a school final theory exam.

BARCOS-336 Credits: 1

Barber Theory 1

Presents the theory in sterilization, sanitation, disinfection, laws and rules, and professional ethics as it relates to the barbering profession. Students participate in individual, group and online activities. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-337 Credits: 2

Barber Haircut 1

Introduces basic fundamentals and related theory of core barber haircutting skills, including the proper use and care of cutting equipment. Students practice on mannequins and models. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-338 Credits: 1

Barber Chemical Services 1

Presents techniques for relaxing and texturizing naturally curly hair. Retouch, virgin and freehand applications are stressed. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-339 Credits: 2

Client Services Externship

Provides an opportunity for the student to gain real-life client service experience in a professional salon. Students work as interns in professional salons under the direction of salon managers, and attend seminars throughout the course with the course instructor. MATC strongly recommends that students complete BARCOS-335, or have the equivalent skills, prior to enrollment in this course.

BARCOS-340 Credits: 4

Manicuring Theory

Students who wish to qualify to take the state manicurist license examination must take this course. Instruction focuses on theory relating to law, nail and skin disorders, manicuring and pedicuring, safety and sanitation, anatomy and physiology, business and record management.

BARCOS-341 Credits: 2

Shaving/Facials

Introduces the theory and practical skills of male facials and shaving with a straight-edge razor. Proper technique and safety are stressed. Students practice on mannequins, classmates and models. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-342 Credits: 4

Manicuring Practicum 1

This course provides the theoretical component related to manicuring, pedicuring, tip application, fabric wrap application, acrylic application, consultation, UV gel application and nail art. Students observe and simulate these chemical applications on artificial nails and classmates. MATC strongly recommends that students complete BARCOS-340, or have the equivalent skills, prior to enrollment in this course.

BARCOS-343 Credits: 4

Manicuring Practicum 2

This course offers professional skill development in basic and artificial nail applications in a salon-like setting. Students practice manicuring, pedicuring, tip fabric, acrylic and UV gel applications on clients under the direct

supervision of the classroom instructor. MATC strongly recommends that students complete BARCOS-340, or have the equivalent skills, prior to enrollment in this course.

BARCOS-344 Credits: 1

Barber Theory 2

Presents theory related to wet and thermal styling, permanent waving, relaxing and tinting. Client consultation is also covered. Students participate in individual, group and online activities. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-345 Credits: 2

Barber Haircut 2

Students enhance skills learned in Barber Haircut 1. Beard trimming and razor haircutting are introduced, and speed and efficiency are encouraged. Students practice on mannequins and available models. Prerequisite(s): BARCOS-337.

BARCOS-346 Credits: 1

Barber Chemical Services 2

Introduces wrapping and application procedures for the permanent wave service. Students practice sectioning and winding permanent rods on mannequins. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-347 Credits: 1

Barber Hairstyling 1

Presents various techniques for basic thermal styling using the blow dryer, curling iron and flat iron. Proper parting and sectioning are stressed. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-348 Credits: 2

Introduction to Client Services

Introduces students to the barber/stylist environment. Students practice barbering skills under the guidance of a licensed instructor. Receptionist duties, people skills and professionalism are also studied. Prerequisite(s): BARCOS-300, BARCOS-337, BARCOS-338 and BARCOS-341.

BARCOS-349 Credits: 1

Barber Haircut 3

Students hone skills previously learned in Barber Haircut courses. Clipper designs, afros, faux-hawks and current trends are also covered. Students practice on mannequins, classmates and available models. Prerequisite(s): BARCOS-337 and BARCOS-345.

BARCOS-350 Credits: 2

Barber Chemical Services 3

Introduces various application procedures for oxidative and non-oxidative tints. Highlighting and bleaching techniques are also covered. Students practice on mannequins and available models. Prerequisite(s): Must be admitted to the Barber program (31-502-5).

BARCOS-351 Credits: 1

Barber Hairstyling 2

Students enhance skills learned in Barber Hairstyling 1. Wet styling techniques are also introduced. Students practice roller sets, pin curls and fingerwaves on mannequins. Prerequisite(s): BARCOS-347.

BARCOS-352 Credits: 2

Barber State Board Review

Presents a review of the theory and practical skills acquired throughout the program. Prepares students for successful completion of the Wisconsin barber licensing exam. Students pack an exam kit, take a mock practical exam and complete a final theory exam.

BARCOS-353 Credits: 2

Barber Haircut 4

Reviews haircutting techniques learned in previous Barber program haircutting courses. Students prepare mannequins for the state board exam. They also practice skills on available models and manikins; speed and efficiency are stressed. Prerequisite(s): BARCOS-337, BARCOS-345 and BARCOS-349.

CABMIL–CABINETMAKING AND MILLWORK

CABMIL-300 Credits: 2

Machine Maintenance/Jigs and Fixtures

This course consists of adjusting and maintaining woodworking machinery such as wide-belt sanders, planers, shapers, and band and circular saws.

CABMIL-303 Credits: 5

Woodworking 1

Students are introduced to the methods of processing materials using various types of woodworking equipment. An intensive safety program is incorporated into the development and completion of projects. Teamwork is emphasized in the coordination and production of group projects. Organizational skills are developed to prepare students for performance efficiency and quality standards.

CABMIL-304 Credits: 3

Woodworking Fundamentals

This course is designed to provide students with woodworking fundamentals including safe operating procedures of woodworking machines, types of wood, adhesives, gluing techniques and preparing wood for construction.

CABMIL-305 Credits: 5

Woodworking 2

Students are involved in advanced cabinetmaking and millwork techniques used to produce architectural millwork and cabinets. Metric units of measurement are used to fabricate 32mm system casework. Students learn to set up, run and troubleshoot equipment necessary to produce exacting work. This course prepares the student for an entry-level position in a modern architectural millwork or cabinet shop. Prerequisite(s): CABMIL-303.

CABMIL-306 Credits: 3

Advanced Woodworking

This course is designed to provide students with the skills associated with advanced cabinetmaking techniques. Subjects covered include cabinet construction, case construction and 32mm construction. Setup and safe operation of woodworking equipment are emphasized. Prerequisite(s): CABMIL-303.

CABMIL-340 Credits: 2

Millwork for Carpenters

This course is designed to teach students skills ranging from the basic operations of woodworking machines to the construction of cabinets. Related information is included on window and door units, and the application of plastic lamination for countertops. Prerequisite(s): Admission to the Carpentry program (31-410-1).

CABMIL-341 Credits: 2

Millwork Techniques

This advanced-level course is a continuation of the course Millwork for Carpenters. The purpose is to advance the student's skill and knowledge of woodworking and cabinetmaking. Prerequisite(s): CABMIL-340.

CABMIL-355 Credits: 1

Materials and Construction

Students become familiar with the current materials used in making cabinets. Emphasis is placed on the various types of application and installation of traditional and modern door hinges and drawer hardware.

CABMIL-383 Credits: 2

Quantity Survey 1

Students are given instruction in identifying dimensions and quantities of parts from furniture and residential woodwork blueprints. Planning, routing and cost estimate procedures are discussed. Prerequisite(s): CABMIL-303, CABMIL-355, CARP-380.

CABMIL-385 Credits: 2

Cabinet Detailing

Students learn how to read blueprints, including floor plans, elevations, sectional and detailed drawings. In addition, basic skills in sketching and drawing are developed. Students will learn how to use basic sketches and drawings in the shop and to communicate with the customer. Prerequisite(s): Completion of or currently enrolled in CABMIL-355.

CABMIL-386 Credits: 2

Cabinet Layout

Students develop working and detailed drawings that are used in the shop to produce cabinetetry or millwork. Conventional methods used to create drawings are explored to enhance comprehension of the information contained within them. Cut lists and materials lists are then developed from the drawings. Students will make full-sized layouts of their drawings. Prerequisite(s): CABMIL-385.

CARP–CARPENTRY

CARP-301 Credits: 5 House Framing

This is a practical course that includes the development of skills in the use and care of carpenter hand tools and portable machines. The fundamental principles of layout and erection of floor decks and walls are practiced in the shop. Prerequisite(s): Admission to Carpentry program (31-410-1).

CARP-302 Credits: 1 OSHA/First Aid

First aid according to the Red Cross and the U.S. Occupational Safety and Health Administration guidelines will be covered in this course. Prerequisite(s): Admission to the Carpentry program (31-410-1).

CARP-303 Credits: 5 Roof Framing

Roof Framing is designed to give the student practical experience in the layout, cutting and erection of rafters for gable, hip, intersection and gambrel roofs. Layout of equal-pitch and unequal-pitch roofs is included, along with framing of dormers and roof openings.

CARP-304 Credits: 3 House Framing Fundamentals

This course is designed to provide students with the fundamental skills associated with house construction. Subjects covered include safe operating procedures associated with power saws, hand tools, residential house construction techniques, types of wall framing and structural components. Prerequisite(s): Admission to Carpentry program (31-410-1).

CARP-306 Credits: 5 Exterior and Interior Finishing

Exterior finishing is covered through installation of different types of exterior sidings, trim, and window and door units. Interior trim and hardware installation is practiced, along with the layout, fitting and assembly of various wood projects. Prerequisite(s): CARP-301.

CARP-351 Credits: 1 Building Materials

The characteristics, manufacture and uses of the essential materials and supplies employed in the several branches of the construction trades are presented. Such topics as physical properties of wood, defects in lumber, shrinkage and warp, lumber grades and sizes, hardware and insulation are covered. Prerequisite(s): Admission to the Carpentry program (31-410-1).

CARP-380 Credits: 1 Arithmetic for Carpenters

The subjects of linear, board, square, angular measurements and square root are presented. Students are given practical and working knowledge of mathematics used in carpentry, and in estimating and recording material supplies. Prerequisite(s): Admission to the Carpentry program (31-410-1).

CARP-383 Credits: 2 Quantity Survey

An estimating course for students in the building trades. It deals with the taking off of such carpentry materials as girders, posts, studs, rafters, roof sheathing, shingles, interior trim and drywall. Prerequisite(s): CARP-380.

CARP-385 Credits: 2 Blueprint Reading 1

A fundamental course in sketching and blueprint reading designed to help carpenters express themselves and interpret plans on the job. It includes sketching objects using straight and curved lines. Isometric, oblique and orthographic views and methods of dimensioning are covered. Prerequisite(s): Admission to the Carpentry program (31-410-1).

CARP-387 Credits: 1 Commercial Blueprint Reading

This is a course in general construction, specifications, heavy construction, and commercial blueprint reading and sketching. Emphasis is placed on the structure of typical buildings of different types, and on developing communication skills in the reading of plans and specifications. Prerequisite(s): CARP-385.

CAS–COMMERCIAL ART/ CREATIVE ADVERTISING STRATEGIST

CAS-125 Credits: 3 Concept Development 1 - Original Ideas

The student will explore the creative environment and develop original ideas/ solutions to answer client problems. Additionally, students will experience the dynamics of the collaborative process through creative teams and the creative studio environment.

CAS-126 Credits: 3 History of Advertising and Media

This course surveys the history of media forms and communication technologies, charting the historical trajectory from the alphabet to the internet. It explores media across time, and the emergence and development of different media forms in relation to particular social, economic, perceptual and technological conditions and historical moments.

CAS-127 Credits: 3 Ethical Guidelines Usage/Copyright

This course will examine the ever-shifting guidelines of copyright and ethics in the creative industry. Case studies and discussion exploring licensing and ownership of original composition and image content will be thoroughly covered.

CAS-137 Credits: 3 Concept Development 2 - Advanced Concepts

Focus is on advanced project-based assignments. A continuance of Concept Development 1, this course is an advanced concept-building environment, where the strategist further considers the various methods and media choices to communicate original concepts.

CAS-141 Credits: 3 New Media Strategies

This course will discuss new media concepts, including social media, seed marketing, email marketing and search marketing.

CAS-142 Credits: 3 Guerrilla and Viral Methods

This course examines the elements of surprise that carry tremendous weight, both as a tool for retention and word of mouth transference. This course studies the pros and cons of guerrilla and viral methods, through case study and real-life project application.

CAS-143 Credits: 3 User Experience - UE 2.0

This course will focus on User Experience (UE) in determining the level of successful communication and retention realized by the consumer and client, whether it be web interface, exhibit design, 3D environment, mobile platform and other methods.

CAS-144 Credits: 3 Project Parameters and Proposals

This course focuses on the production of a single ad concept to an entire multifaceted campaign. Additionally, this course will look at the parameters of a project as it relates to the client's expectations and industry process. Recognizing the challenges of keeping the client educated and informed about the project development is also covered in depth.

CAS-146 Credits: 4 CAS Design Portfolio

The diversity and caliber of each student's work is assessed, packaged and presented through this course. Students prepare professional-level work, which demonstrates skill sets and abilities on par with industry expectations. The finished portfolio is utilized to market the student in the workplace via both traditional and digital methods. CAS portfolio students are additionally required to interview with a minimum of three external ad agencies and/or design studios prior to course completion. Participation in an annual portfolio exhibit is also required.

CAS-147 Credits: 3 Methods of Communication

This is a study of current trends in advertising and marketing communications, as well as a studied view into the "crystal ball," identifying the future of the creative industry, and the many areas of specialization within the discipline.

CAS-148 Credits: 3**Campaign Exploration**

Exploring the power of continuity in design and communication as it pertains to message is the focus of this course. Case studies and project-based assignments will further the student's understanding of campaign building.

CAS-149 Credits: 3**Practical Application Workshop**

Working directly with real clients and deadlines, this course functions as a service learning experience for the student. Measured jointly by faculty and clients, all project outcomes are assessed on par with industry expectations.

CHEMT–CHEMICAL TECHNOLOGY**CHEMT-101 Credits: 2****Chemical Laboratory/Process Safety**

This course develops the knowledge and skills required to work safely in the chemical laboratory. Among the topics included are the history and application of state and federal regulations pertaining to the workplace, recognition and reduction of chemical and physical hazards, manipulation of glassware and laboratory equipment, handling compressed gas cylinders, and personal protective equipment and practices. Certified cardiopulmonary resuscitation (CPR) for professional rescuers and first aid training are included. Prerequisite(s): NATSCI-110, NATSCI-211 or both SCIH-705 and SCIH-706, or both SCIPH-705 and SCIPH-706 with minimum grade of C; or satisfactory placement test scores.

CHEMT-103 Credits: 2**Introduction to Chemical Technology**

This course introduces students to chemical technology. Students learn the fundamental skills needed to work safely and productively in the chemical laboratory. The proper procedures and methods for recording, manipulating and applying data are noted. Measurement of intensive and extensive physical properties of materials, using common laboratory instruments, is stressed. Spectroscopy and chromatography are introduced.

CHEMT-105 Credits: 3**Introduction to Instrumental Methods**

Presents the learner with the opportunity to become familiar with the basic uses and operation of modern analytical instrumentation. Real samples will be analyzed using gas and liquid chromatographs. Optical instruments include UV-visible, atomic, atomic emission and fluorescence spectrometers.

CHEMT-106 Credits: 5**Instrumental Methods of Analysis**

This course examines the design, construction and use of modern chemical analytical instruments. Topics include

absorption and emission spectroscopy, gas and liquid chromatography, and electrochemical methods. Prerequisite(s): NATSCI-215 or CHEMT-115.

CHEMT-107 Credits: 2**Industrial Methods of Analysis**

Tests and analyses similar to those employed in industry are used to determine the characteristics of raw materials and finished products. Standard and official methods as outlined by ASTM, AOAC, FCC, are used in the testing of petroleum products, metals, ores, foods, soaps, detergents and water. Instrumental and classical methods are used. Prerequisite(s): CHEMT-105 with minimum grade C.

CHEMT-109 Credits: 3**Chemical Processes**

This course focuses on the role, structure and operations of industrial chemical laboratories. The activities, responsibilities and functions of the various business activities are examined from the perspective of a technician working in research and development or technical service laboratory. Prerequisite(s): CHEMT-115 or NATSCI-215 with minimum grade C.

CHEMT-111 Credits: 5**General Chemistry 1**

A study is made of the basic principles of modern chemistry, correlating atomic structure, the theories of chemical bonding, and the structure and reactivity of matter. Laboratory work is included and demonstrates the principles discussed.

CHEMT-112 Credits: 5**General Chemistry 2**

A study is made of kinetics, equilibria, thermodynamics, nucleonics, coordination chemistry, electrochemistry, and topics in organic and biochemistry. Qualitative analysis is emphasized in the laboratory course. Prerequisite(s): CHEMT-111 or NATSCI-211 with minimum grade C.

CHEMT-115 Credits: 5**Quantitative Analysis**

A study is made of the general principles of volumetric and gravimetric analysis, acidimetry and alkalimetry, redox process, solubility equilibria, complexation titrations and optical and electrometric methods. The evaluation of analytical data is stressed. Laboratory work is included. Prerequisite(s): CHEMT-112 or NATSCI-212 with minimum grade C.

CHEMT-116 Credits: 5**Instrumental Analysis**

This course examines the design, construction and use of modern chemical analytical instruments. Topics included are absorption and emission spectroscopy, gas and liquid chromatography, and electrochemical methods. Prerequisite(s): CHEMT-112 or NATSCI-212 with minimum grade C.

CHEMT-117 Credits: 3**Organic Chemistry 1**

Lecture topics include the principles of bonding, stereochemistry, mechanisms, kinetics and spectrometry applied to aliphatic and aromatic hydrocarbons and simple mono-functional organic molecules. Prerequisite(s): CHEMT-112 or NATSCI-212 with minimum grade C.

CHEMT-118 Credits: 3**Organic Chemistry 2**

A second semester course in Organic Chemistry that builds upon concepts learned in CHEMT-117. Spectroscopy and the chemistry of oxygen containing compounds are emphasized. Prerequisite(s): NATSCI-217 or CHEMT-117 with minimum grade C.

CHEMT-119 Credits: 2**Organic Chemistry Laboratory 1**

Laboratory work focuses on the synthesis and purification of organic compounds illustrating reaction mechanisms. Prerequisite(s): NATSCI-212 or CHEMT-112 with minimum grade C.

CHEMT-120 Credits: 2**Chemical Technology Co-Op**

This course provides an opportunity to gain on-the-job training related to the Chemical Technician program. The activities will be coordinated between industry and the student by the lead instructor of the program. Prerequisite(s): Consent of instructor is required to enroll in this course.

CHEMT-122 Credits: 3**Survey of Polymer Science**

This course offers a survey of the different aspects of polymer science including polymer synthesis, polymer properties and physical testing of polymers. The course emphasizes the various applications of polymers including coatings, adhesives, plastics, impact modifiers and elastomers. Prerequisite(s): CHEMT-112 or NATSCI-212.

CHEMT-125 Credits: 1**Principles of Gas Chromatography**

This course is designed for practicing chemical technicians and others interested in gas chromatography. Topics include theory of gas chromatography, hardware, software and practical applications.

CHEMT-130 Credits: 3**Field Studies in Water Chemistry**

Students will collect and stabilize lake and river water samples, conduct field and laboratory analysis following approved methodology and chemical safety. The course also will cover routine laboratory measurement (pH, titration, water hardness), as well as advanced chromatography and spectroscopy instrumentations.

CHILDD—CHILD DEVELOPMENT

CHILDD-101 Credits: 3

Infant/Toddler Credential Capstone

This course will culminate the first three courses of an Infant Toddler state registry credential. The course will examine the appropriateness of early childhood environments along with the developmental stages of children, birth through 36 months. Curriculum planning with respect to different family cultures will be explored. The application of this course will be to develop an Infant Toddler portfolio that could be submitted to the Wisconsin state registry commissioner for validation of the Infant Toddler credential. Prerequisite(s): CHILDD-151.

CHILDD-102 Credits: 3

Preschool Capstone

This course will culminate the Preschool credential. The capstone course is not part of the associate's degree program but is necessary to support the student during the portfolio development process and emphasize some important themes from the prior five courses. The capstone class examines the developmental appropriateness of activities that support children 3 years to 6 years of age. The application of this course will be to develop a Preschool portfolio that will be submitted to the Wisconsin state registry commissioner for validation of the Preschool credential. Prerequisite(s): CHILDD-148, CHILDD-167, CHILDD-178, CHILDD-179, CHILDD-188.

CHILDD-103 Credits: 3

Foundations in Afterschool Development

This first course provides an overview of the knowledge and skills individuals need to care for school-age children between the ages of 5 and 12 in a group setting. It will provide a foundation for the importance of out-of-school-time programs and explore the philosophy and goals for high quality programs. It is based on an understanding of the principles of child growth and development. It provides an overview of the rules and regulations governing group care for school-age children and the responsibilities of the providers. This course also fulfills the 40-hour introduction to the School-Age Care Profession course.

CHILDD-104 Credits: 3

Engaging Youth in Groups

This course explores the dynamics of working with children in group settings. It looks at the development of relationships between staff and children, between children and how our working knowledge of children supports their engagement, and informs our strategies for positive behavior guidance.

CHILDD-105 Credits: 3

Intentionality in Programming

This course focuses on the learning environment and curricular models within an informal learning environment. It will explore

the role and methods for informal observation and recording as it is used in identifying the needs and interests of the children. It will explore lesson planning that is intentional, scaffolds learning and addresses core standards.

CHILDD-106 Credits: 3

Site Programming and Operations

This course will deepen the understanding of creating a comprehensive program and will explore the use of self- and program-assessment tools. It will look at the importance of developing partnerships with the family, school and community, and the meaning of professionalism. It will look at risk management from the perspective of the health, safety and well-being of the children.

CHILDD-117 Credits: 3

ECE: Credit for Prior Learning

Examines early childhood professional experience for the purpose of receiving credit for prior learning. Course competencies include: access needed support services on campus and online, analyze professionalism in the early childhood field, identify core abilities, identify what a competency is within a course, examine the courses and outcomes of the WTCS Early Childhood Education program, analyze performance assessment, compare professional experience with early childhood competencies, compile materials for performance assessment of course(s), and determine plan of action for program completion. Prerequisite(s): Instructor consent required.

CHILDD-120 Credits: 3

Administration/Supervision in Early Childhood Programs: Roles and Responsibilities

This is the first of six courses designed to prepare participants as child care administrators. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs.

CHILDD-121 Credits: 3

Operations Management in Early Childhood Programs

This is the second of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs.

CHILDD-122 Credits: 3

Financial Management and Planning

This is the third of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs

of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. This course represents an overview of the roles and responsibilities of administrators of various early care and education programs and the groups with whom they have role relationships, with an emphasis on quality.

CHILDD-123 Credits: 3

The External Environment

This is the fourth of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. This course covers the external factors and relationships that provide constraints and opportunities that affect an organization's quality and ability to survive. It includes predicting supply and demand, marketing, licensing and other required regulation, funding, accreditation, external evaluation, collaboration with community organizations and agencies, public policy issues in early care and education, advocacy and working for public policy changes.

CHILDD-124 Credits: 3

Best Practices

This is the fifth of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public and private schools, and other early care and education programs. Course covers child care as a family-friendly community, integration of child growth and development principles into all aspects of the program, establishing and maintaining quality in the program, developing partnerships with families, and fostering multicultural and anti-bias approaches in curriculum, materials, activities, relationships and space design and equipment.

CHILDD-125 Credits: 3

Administrative Seminar

This is the last of six courses designed to prepare participants to receive a credential as a child care administrator. Like the other five courses, it is developed to meet the needs of those who are employed or would like to be employed as administrators in child care programs, Head Start, nursery schools, school-age programs, family child care, child welfare service agencies, public

and private schools and other early care and education programs. Those first five courses are primarily about mastering the necessary skills to be successful at managing quality, early childhood education programs. The strategies learned in this course will build upon management skills and take students beyond management to incorporate leadership in their programs, communities and profession. Through the development of a major project, students synthesize, integrate and apply the concepts and skills acquired in the full series of courses. Prerequisite(s): CHILDD-120, CHILDD-121, CHILDD-122, CHILDD-123 and CHILDD-124.

CHILDD-126 Credits: 3

Behavior and Emotional Challenges

This course prepares the student to build rapport with children and their families; create supportive learning environments; demonstrate positive social-emotional teaching strategies; define specific discipline and guidance strategies; assess challenging behaviors; describe specific diagnoses typically related to challenging behaviors; develop individualized, positive guidance plans; and communicate the need for positive, consistent, team approaches to including children with challenging behaviors in typical community settings.

CHILDD-127 Credits: 3

Special Healthcare Needs

This course will have a medical focus and covers frequently encountered specialized healthcare needs of individuals with disabilities, preparing the student to examine altered body systems function, including sensory, gastrointestinal (tube feedings), bowel and bladder elimination, respiratory (allergies and asthma), cardiovascular/blood, musculoskeletal, neurological, skin/immune and endocrine (diabetes) related issues. You will not be practicing medicine, but you will gain a better understanding of medical issues and the professionals who can support you in establishing policies and procedures that assure safe, quality care for all.

CHILDD-128 Credits: 3

Capstone: Family and Team-Centered Practice

During this course you will be spending time with a child in the community settings that the child experiences, such as home, school, child care, grocery store, medical settings, parks, libraries and more. As you do so, you are offered the opportunity to deeply explore the perspectives of the various people involved in this child's life, as well as the service delivery systems available to the child and family. Prerequisite(s): CHILDD-126, CHILDD-127, CHILDD-187.

CHILDD-148 Credits: 3

ECE: Foundations of ECE

This course introduces you to the early childhood profession. Course competencies include: integration of strategies that support diversity and anti-bias perspectives,

investigate the history of early childhood education, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, and explore early childhood curriculum models.

CHILDD-151 Credits: 3

ECE: Infant and Toddler Development

In this course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze development of infants and toddlers (conception to 3 years), correlate prenatal conditions with development, summarize child development theories, analyze the role of heredity and the environment, examine research-based models, and examine culturally and developmentally appropriate environments for infants and toddlers.

CHILDD-166 Credits: 3

ECE: Curriculum Planning

This course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, examine the critical role of play, establish a developmentally appropriate environment, examine care-giving routines as curriculum, develop activity plans that promote child development and learning, develop unit plans that promote child development and learning, and analyze early childhood curriculum models. Prerequisite(s): CHILDD-174.

CHILDD-167 Credits: 3

ECE: Health, Safety and Nutrition

This course examines the topics of health, safety and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety and nutrition concepts into the children's curriculum.

CHILDD-168 Credits: 3

Group Programming for Infants

Students study information and effective teaching techniques for caring for infants and toddlers in group settings, both center-based and family child care. Course topics include program quality, philosophy, structure, environments, health and safety, developmentally appropriate practice and inclusion/diversity issues.

CHILDD-174 Credits: 3

ECE: Practicum 1

In this practicum course, you will learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality, early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice care-giving routines as curriculum; practice positive interpersonal skills with children; and practice positive interpersonal skills with adults.

CHILDD-178 Credits: 3

ECE: Art, Music and Language Arts

This course will focus on beginning-level curriculum development in the specific content areas of art, music and language art. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; develop activity plans that promote child development and learning; analyze care-giving routines as curriculum; create developmentally appropriate language, literature and literacy activities; create developmentally appropriate art activities; create developmentally appropriate music and movement activities.

CHILDD-179 Credits: 3

ECE: Child Development

This course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural and economic influences on child development; summarize child development theories; analyze development of children age 3 through age 8; summarize the methods and designs of child development research; analyze the role of heredity and the environment.

CHILDD-187 Credits: 3

ECE: Children With Differing Abilities

This course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication and/or behavioral/emotional disorders; work collaboratively with community and professional differences; adapt curriculum to meet the needs of children with developmental differences; cultivate partnerships with families who have children with developmental differences.

CHILDD-188

Credits: 3

ECE: Guiding Child Behavior

The course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy.

CHILDD-192

Credits: 3

ECE: Practicum 2

In this practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality, early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice care-giving routines as curriculum; practice positive interpersonal skills with children; practice positive interpersonal skills with adults. Prerequisite(s): Admission to the Early Childhood Education program (10-307-1) and CHILDD-174.

CHILDD-194

Credits: 3

ECE: Math, Science and Social Studies

This course will focus on beginning-level curriculum development in the specific content areas of math, science and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, examine the critical role of play, establish a developmentally appropriate environment, develop activity plans that promote child development and learning, create developmentally appropriate social studies activities. Prerequisite(s): CHILDD-174.

CHILDD-195

Credits: 3

ECE: Family and Community Relations

In this course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources.

CHILDD-197

Credits: 3

ECE: Practicum 3

In this practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children's growth and development; implement the standards for quality, early

childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead care-giving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. Prerequisite(s): Admission to the Early Childhood Education program (10-307-1) and CHILDD-192.

CHILDD-198

Credits: 3

ECE: Administration of an ECE Program

Focuses on the administration of an early childhood education (ECE) program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze the components of an ECE facility; design an ECE program; analyze the aspects of personnel supervision; outline financial components of an ECE program; apply laws and regulations related to an ECE facility; advocate for the early childhood profession.

CHILDD-199

Credits: 3

ECE: Practicum 4

In this practicum course, you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education. Prerequisite(s): Admission to the Early Childhood Education program (10-307-1) and CHILDD-197.

CIVIL–CIVIL ENGINEERING TECHNOLOGY

CIVIL-101

Credits: 2

Civil Engineering Drawing

The methods, techniques and equipment used in the civil engineering profession are studied. Drafting principles of geometric construction and orthographic projection are applied. Basic civil engineering drawings are reviewed, including subdivision mapping, plan and profiles, cross sections, and site and grading plans.

CIVIL-102

Credits: 2

Introduction to AutoCAD

This course introduces students to two-dimensional computer drafting. Course content includes: how to draw orthographic views and section views; how to draw entities such as lines, circles and text; how to add dimensions; how to edit drawings; and how to create and use blocks. Both A-size

and B-size templates are used. The American National Standards are emphasized in line weights, dimensions and appearance.

CIVIL-105

Credits: 2

Computer Applications

Computer applications such as word processing and spreadsheet usage are covered. Calculator methods and programming with the TI-86 scientific programmable calculator are included.

CIVIL-106

Credits: 2

Intermediate AutoCAD

This course is designed to expand the use of 2D AutoCAD. The course will cover advanced editing techniques, the use of multiple scale factors for drawings, attributed blocks, dynamic blocks, the use of xref's and advanced dimensioning. System variables and basic script files are also studied. Prerequisite(s): CIVIL-102.

CIVIL-107

Credits: 2

Introduction to Microstation

The basic fundamentals of using Microstation software are explored. Drawing, placing, manipulating and modifying elements are covered. Additional topics include drafting aid features, cells, reference files, advanced 2D techniques, dimensioning, annotating and plotting.

CIVIL-108

Credits: 1

Construction Computer Applications

This computer applications course is designed to provide students with word processing, spreadsheet and internet skills. Additionally, the course gives students an opportunity to utilize these skills in a project and presentation.

CIVIL-110

Credits: 2

Introduction to Civil 3D

See the course description on INFOnline at matc.edu. Prerequisite(s): CIVIL-102.

CIVIL-111

Credits: 2

Advanced Civil 3D

Autodesk Civil 3D is a civil engineering design software used for civil design, drafting and documentation, collaboration and Building Information Modeling (BIM) workflows. This course covers the advanced design functions and techniques of Civil 3D including alignments, surface grading and analysis, pipe networks and survey databases. Prerequisite(s): CIVIL-110.

CIVIL-132

Credits: 3

Building Estimating

Estimating techniques for civil engineering projects are covered. Students work with checklists, cost records, price lists and labor probabilities, including software usage, to make quantity surveys for material costs, labor costs, equipment costs, overhead and profit. Prerequisite(s): ARCHT-102 or CIVIL-106.

CIVIL-135 Credits: 3

Public Works Engineering and Estimating

The basic principles of planning, design, construction and operation of public works facilities, such as water, wastewater, solid waste, and transportation systems are discussed. Estimating techniques for civil engineering projects are covered.

CIVIL-141 Credits: 4

Statics and Strength of Materials

The principles of static equilibrium are applied to free bodies. Students study the behavior of simple structures under load. The properties of the cross section are determined and used in the analysis of stress, deflection and strain. Compression, tension, shear and bending stresses are analyzed. Prerequisite(s): MATH-115 or MATH-202.

CIVIL-142 Credits: 3

Structures

General structural behavior with respect to live and dead loading, wind loading, earthquake loading and transfer of loads throughout a structure by diaphragms and shear walls are studied. The principles of structural steel, reinforced concrete and timber structures are studied, including the codes of practice for each. Different types of foundations are presented, and basic foundation design principles are studied. Prerequisite(s): CIVIL-141 and MATH-115 or MATH-202.

CIVIL-147 Credits: 3

Soils and Materials Testing

The purpose of this course is to help students gain an understanding of the engineering properties of construction materials and soils. Lab tests are performed on soil, aggregates, concrete and steel. The results of these tests are then used to determine the strengths and weaknesses of each material related to their use in civil engineering. Wisconsin DOT Certification for PCC/Tec I/IA (Portland Cement Concrete Technician) is also available as part of this course. Prerequisite(s): Completion of or currently enrolled in MATH-115.

CIVIL-148 Credits: 3

Structural Detailing

This course is an introduction to detailing as performed by structural fabricators and structural engineering consultants. It includes structural steel detailing, utilizing standard shapes produced by rolling mills to make girders, beams and columns and their associated connections. Metal building detailing is also studied and compared to the conventional steel detailing. The AISC Manual of Steel Construction is used throughout this portion of the course. There is an introduction to the detailing required for concrete structures. Poured-in-place, as well as precast structural members, standard reinforcing details and field considerations are reviewed. Prerequisite(s): CIVIL-106 and CIVIL-141.

CIVIL-155 Credits: 2

Surveying 1

The principles of surveying are presented, and the use of surveying tools and instruments in the application of these principles is covered. Taping, leveling and basic total station operation are included. The methods of measurement, and the processing of measurement and data are studied.

CIVIL-156 Credits: 2

Surveying 2

The principles of surveying are continued, with emphasis on traverse procedures and calculations. The theodolite, EDM, total station GPS and data collector are used for topographic and construction surveys. The uses of COGO are also covered. Prerequisite(s): CIVIL-155 and completion of or currently enrolled in CIVIL-102 and MATH-115.

CIVIL-157 Credits: 3

Route and Highway Surveying

Horizontal- and vertical-alignment field problems and theory are covered. Geometric design, including circular horizontal curves, vertical curves, sight distance, superelevation, cross sections and earthwork are studied. A roadway plan and profile also are prepared. Prerequisite(s): CIVIL-156 and CIVIL-102.

CIVIL-158 Credits: 2

Land Surveying

The U.S. Public Land Survey is reviewed. Minimum standards for property surveys are covered. Subdivision regulations and mapping requirements for CSM and subdivision plats are also studied. Also, the principles of control surveys, state plane coordinates and GPS are reviewed. Prerequisite(s): CIVIL-157.

CIVIL-160 Credits: 3

Legal Elements of Land Surveying

This course covers the techniques of boundary location from the interpretation of written deeds. Principles are drawn from precedents established by the courts. Wisconsin Administrative Code A-E7 and Wisconsin Statutes Chapter 236 are reviewed. Prerequisite(s): CIVIL-156.

CIVIL-161 Credits: 3

Boundary Location

The principles and practice of boundary locations are presented. The public land system is covered in detail. Principles for performing surveys will be discussed. Prerequisite(s): CIVIL-156.

CIVIL-170 Credits: 3

Sewer and Water Systems

The principles of design and construction of water distribution, sanitary sewer and storm sewer systems are studied including the related principles of hydraulics, hydrology and local standards. Engineering drawings of these facilities are also prepared. Prerequisite(s): CIVIL-102 and CIVIL-135.

CIVIL-190 Credits: 1

Civil Internship

This course is designed to be general, so that it can fit with a variety of internships, such as surveying, material testing, CAD, construction inspection, project management and others.

CLABT–CLINICAL LABORATORY TECHNICIAN

CLABT-109 Credits: 4

Blood Bank

This course focuses on blood banking concepts and procedures, including blood typing, compatibility testing, workups for adverse reaction to transfusions, disease states and donor activities. Prerequisite(s): CLABT-110, CLABT-113, CLABT-115.

CLABT-110 Credits: 1

Basic Lab Skills

This course explores health career options, and the fundamental principles and procedures performed in the clinical laboratory. You will utilize medical terminology and basic laboratory equipment. You will follow required safety and infection control procedures, and perform simple laboratory tests. Prerequisite(s): Admission to either the Medical Laboratory Technician (10-513-1) or Phlebotomy (30-513-1) program.

CLABT-111 Credits: 2

Phlebotomy

This course provides opportunities for students to perform routine venipuncture, routine capillary puncture and special collection procedures. Prerequisite(s): CLABT-110.

CLABT-113 Credits: 1

QA Lab Math

This course focuses on performing the mathematical calculations routinely used in laboratory settings. You will explore the concepts of quality control and quality assurance in the laboratory. You will review regulatory compliance requirements, and certification and continuing education programs. Prerequisite(s): Admission to the Medical Laboratory Technician program (10-513-1).

CLABT-114 Credits: 2

Urinalysis

This course prepares you to perform a complete urinalysis which includes physical, chemical and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions. Prerequisite(s): CLABT-110, CLABT-113.

CLABT-115 Credits: 2

Basic Immunology Concepts

This course provides an overview of the immune system including laboratory testing methods for diagnosis of immune system disorders, viral and bacterial infections. Prerequisite(s): Admission to the Medical Laboratory Technician program (10-513-1).

CLABT-120 Credits: 3**Basic Hematology**

This course covers the theory and principles of blood cell production and function, and introduces you to basic practices and procedures in the hematology laboratory. Prerequisite(s): CLABT-110, CLABT-111, CLABT-113, CLABT-115.

CLABT-121 Credits: 1**Coagulation**

This course introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. Prerequisite(s): CLABT-113.

CLABT-130 Credits: 2**Advanced Hematology**

This course will explore mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. Prerequisite(s): CLABT-120.

CLABT-131 Credits: 3**Clinical Chemistry 1**

Introduces clinical chemistry techniques and procedures for routine analysis using photometric, potentiometric and separation techniques. Topics in this course include pathophysiology and methodologies for carbohydrate, lipoids, proteins, renal function and blood gas analysis. Prerequisite(s): NATSCI-177 or NATSCI-202, NATSCI-186, CLABT-110, CLABT-113 and CLABT-114.

CLABT-132 Credits: 2**Clinical Chemistry 2**

A continuation of Clinical Chemistry Diagnostics, this course includes techniques and procedures for analysis using sophisticated laboratory instrumentation. Topics include pathophysiology and methodologies for hepatic, bone, cardiac markers, tumor markers, endocrine function, fetal function, miscellaneous body fluids and toxicology. Prerequisite(s): CLABT-131.

CLABT-133 Credits: 4**Clinical Microbiology**

This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. Prerequisite(s): NATSCI-161.

CLABT-140 Credits: 2**Advanced Microbiology**

This course provides an overview of acid fast organisms, fungi, parasites and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the

diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed. Prerequisite(s): CLABT-133.

CLABT-143 Credits: 1**Seminar**

This course provides a review from previous courses that helps the student prepare for national certification examinations for the clinical laboratory technician level. It also assists students with résumé development, job interview practice and job searches. Prerequisite(s): CLABT-113.

CLABT-151 Credits: 3**Clinical Experience 1**

Students practice principles and procedures of laboratory medicine as an entry-level medical/clinical laboratory technician in a clinical laboratory setting. Students will learn to operate state-of-the-art instruments and report results on laboratory information systems. Prerequisite(s): CLABT-110, CLABT-111, CLABT-113, CLABT-114, CLABT-115, CLABT-120, CLABT-121, CLABT-122, CLABT-123, CLABT-130, CLABT-131, CLABT-132 and CLABT-133.

CLABT-152 Credits: 4**Clinical Experience 2**

In this clinical you will practice the principles and procedures of laboratory medicine as an entry-level medical/clinical laboratory technician in a clinical laboratory setting. You will learn to operate state-of-the-art instruments and report results on laboratory information systems. Prerequisite(s): CLABT-151.

CNC—COMPUTER NUMERICAL CONTROL

CNC-302 Credits: 1**Computer Application/CNC**

An introduction to Windows is given, beginning with an overview of a personal computer system's components. Students utilize Word and CNC editors to create and edit text files, explore the directory structure in the context of CNC programs and software, and control fixed and floppy disk drives. An introduction to Mastercam software will be covered.

CNC-320 Credits: 1**Tooling and Fixturing**

Overview of basic types and functions of jigs and fixtures, and the way these workholders are designed and built. Basic elements of supporting, locating, clamping the part are included; modular component workholders and principles of power clamping too.

CNC-321 Credits: 1**CNC Machine Technology**

Instruction is given in state-of-the-art CNC machining technologies. This course is upgraded as these technologies change.

CNC-324 Credits: 3**CNC Machine Programming/Proveout 1**

This course is for those who already understand the basic concept of CNC machining center operations. Students will be taught to operate tech-specific CNC machines. Basic concepts of manual CNC programming, including linear and circular interpolation, Z axis canned cycles and cutter diameter compensation, are covered. All CNC programs that the student writes will then be proved out on a full-sized industrial CNC machine center. Prerequisite(s): MACHTL-317 or MACHTL-370.

CNC-325 Credits: 3**CNC Machine Programming/Proveout 2**

This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques such as polar coordinates, metric programming, subroutine programming, zero shift and multiple work zero programs. Also covered are advanced CNC machining center operational procedures. Prerequisite(s): CNC-324.

CNC-326 Credits: 3**Machining Center CAD/CAM Programming 1**

This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques including an introduction to CAD/CAM. Also covered are advanced CNC machine center operational procedures. All of the jobs that the student programs will be run on a CNC machining center. Prerequisite(s): CNC-325.

CNC-327 Credits: 3**Machining Center CAD/CAM Programming 2**

This course is for those who already understand the basic concepts of CNC machining center operations and CNC programming. The course will cover additional CNC programming techniques including CAD/CAM, which was introduced in CNC-326. This course will start with a review of the basic process of creating a CNC program using a CAD/CAM system. Students will then advance through all of the different features of today's CAD/CAM systems as they relate to CNC programming for machining centers. Prerequisite(s): CNC-326.

CNC-332 Credits: 3**CNC Turning Programming/Proveout 1**

This course is for those who already understand the basic operations of a CNC turning center. Students will be taught how to safely prove out a CNC program on the machines in the lab. Then students will be taught the basics of manual CNC programming for a turning center. All programs the student writes will be proved out on the machine with emphasis on tooling, speeds and feeds for metal cutting. Prerequisite(s): MACHTL-319 or MACHTL-380.

CNC-333 Credits: 3

CNC Turning Programming/Proveout 2

This course will build on the concepts learned in CNC-332. Additional operational procedures for CNC turning centers will be covered. Also, additional programming techniques such as threading, TNR compensation and metric programming will be covered. All programs the student writes will be proved out on the machine with emphasis on tooling, speeds and feeds for metal cutting. Prerequisite(s): CNC-332.

CNC-334 Credits: 3

Turning Center CAD/CAM Programming 1

This course will build on the concepts learned in CNC-333. Additional procedures for CNC turning centers will be covered. Also, additional programming techniques such as internal boring, internal threading and canned cycles will be covered. All programs the student writes will be proved out on the machines with emphasis on tooling, speeds and feeds for metal cutting. Also, an introduction to CAD/CAM programming will be covered. Prerequisite(s): CNC-333.

CNC-335 Credits: 3

Turning Center CAD/CAM Programming 2

This course covers CAD/CAM programming for CNC turning centers using PC-based master CAM software. All programs the student writes will be proved out on the machine with emphasis on tooling speeds and feeds for metal cutting. Prerequisite(s): CNC-334.

CNC-340 Credits: 3

Introduction to Five-Axis Programming/Operation

This course is for those who already understand the concepts of CNC machining center operations and CNC programming. First the student will be introduced to basic concepts of five-axis machining, then the student will learn programming procedures of a five-axis machining center, including process planning, tool selection, speed/feed calculations and setup planning. The student will be taught 3D drawing techniques and how to generate tool paths using Mastercam software. Then the student will learn operational procedures for the CNC five-axis machining center at MATC including start up, workholding, tool mounting, offset setting and program management. Then a specific proveout procedure is covered. All of the programs that the students create are proved out on full-size machines like those used in industry today.

COMART–COMMERCIAL ART

COMART-100 Credits: 1

Exploring Graphic Design

Have you ever wondered if you have what it takes to be a graphic designer? Today's world of graphic arts is full of fascinating technology. In this four-week survey course you will explore a career in graphic design and its many options. Topics include overview of the graphic design industry;

image creation software; draw, paint and digitize; putting it all together; page layout tools; and the new frontier: web page design. Prerequisite(s): COMART-103.

COMART-101 Credits: 2

Pre-Entry Portfolio Preparation

This course will enable students to assemble a preliminary portfolio used to assess entry-level abilities. Projects will be assigned based on existing skills and talents exhibited through previous experience. This elective course is highly recommended for the students with little or no previous art and/or design experience.

COMART-103 Credits: 3

Design Elements and Principles

This course develops the student's ability to express meaning with graphic form by introducing basic knowledge of shape and space, unity and components, contrast, hierarchy, psychology of color, sign and symbol. Students will also learn how to utilize the available media and work within design constraints.

COMART-104 Credits: 2

Design Research and Conception

Successful graphic design needs careful planning and research before ideas are explored. In this course, students will experience the professional design process from clarification of the client's objective, to analysis and research of visual reference and contemporary trends, to implementation of the final comprehensive design. Prerequisite(s): COMART-103.

COMART-106 Credits: 3

Graphic Design Trends

This course will explore historical and contemporary communication trends, interactive methodology, popular culture and their effect on visual design. Prerequisite(s): COMART-103, COMART-115.

COMART-107 Credits: 3

Digital Imaging: Adobe Photoshop

This course is an introduction to digital imaging in Adobe Photoshop as it applies to design and illustration. Students learn digital color correction, retouching, image manipulation, special effects, image composing and creative design techniques. Differences between raster and vector graphics are discussed. Students also learn how to manage files, optimize images for print output and multimedia applications.

COMART-109 Credits: 1

Photographic Art Direction

Students learn basic photographic direction and communication for design.

COMART-110 Credits: 3

Publication Design Using Adobe InDesign

This course builds the essential skills in popular desktop publishing programs. Topics covered include integrating graphics

and photos into publication, formatting type, creating tables, importing files, managing story threads, managing color and assembling pages. Design principles and process specific to publications will be emphasized. Creative assignments range from newsletters, magazines and books to electronic publications. Prerequisite(s): COMART-103, COMART-107, COMART-115 and COMART-122.

COMART-111 Credits: 3

Advertising Layout

This course is an introduction to advertising layout, from rough concepts to comprehensive presentations. Students will explore effective design styles, use of typography and various rendering techniques. Prerequisite(s): COMART-103, COMART-115.

COMART-112 Credits: 3

Graphic Design Workshop

In addition to a course facilitator, five visiting professionals who exemplify the broad spectrum of practice within the graphic arts industry will present mini seminars scheduled for three weeks each. These professionals will represent members of the regional graphic arts community, including graphic/web designers, art/creative directors, photographers and illustrators. Prerequisite(s): COMART-111, COMART-118.

COMART-113 Credits: 3

Media Preparation for Print and Digital Publishing

This is an advanced layout and production course addressing the present advertising market. Students prepare layouts for various advertising media and produce final computer files for their designs. Concepts or ideas are emphasized, as well as application of design principles, typography and production skills. The course addresses the transition to electronic production and pre-press, and offers hands-on experience using Macintosh computers for production of art and page layout. Prerequisite(s): COMART-111, COMART-118.

COMART-115 Credits: 3

Typography 1

The character and formation of major typography families are studied and analyzed for effective applications in graphic communications. Letter forms in design are explored through conventional methods and computer modeling.

COMART-116 Credits: 3

Interactive Media Design

This course covers basics for designing message and function in interactive digital environments. Students will learn to control motion, interactivity, sound and space to design interfaces that are navigable, readable and usable. Critical review of both good and bad interface examples is offered. Prerequisite(s): COMART-104, COMART-107.

COMART-117 Credits: 3

Packaging and Exhibition Design

This course focuses on seeing and designing in three dimensions for product packaging, point of purchase display (POP) and environmental graphics. Graphic continuity, content, client/customer research and aesthetic issues are dealt with at length. Students will also learn simple model making techniques and choosing appropriate materials. Prerequisite(s): COMART-111.

COMART-118 Credits: 3

Typography 2

In this advanced typography course, students will further explore the professional uses of type in design. Students will learn how to create dynamic type for both editorial and illustrative purposes, learn proper use of punctuation and alternate characters, create and manage style sheets, proofread and edit documents, design a custom font and create moving type. Prerequisite(s): COMART-110, COMART-115, COMART-122.

COMART-122 Credits: 3

Vector Graphics: Adobe Illustrator

This course addresses the concepts and techniques of creating illustrations and images, for use in print and digital applications, utilizing current industry-standard drawing software, Adobe Illustrator. Assignments include the creation of logos, symbols, technical illustrations, information graphics and art for other applications.

COMART-151 Credits: 2

Advanced Media Design

Students focus on advanced design problem-solving using a broad range of design applications with emphasis on creative graphics reproduction. Prerequisite(s): COMART-103, COMART-106.

COMART-152 Credits: 1

Digital Portfolio

Students will assemble a professional portfolio created and presented via digital media. This course will emphasize creativity, variety, process and technique. A complete digital portfolio should be ready to present at the college's portfolio event. Prerequisite(s): COMART-116.

COMART-153 Credits: 3

Portfolio Assessment

In this course, students will learn portfolio preparation and presentation, networking and establishing contacts, job interviewing skills, résumé-writing, completing job applications and follow-up. Guest speakers will add professional insight. Prerequisite(s): COMART-110, COMART-111, COMART-112.

COMART-154 Credits: 1

Graphic Design Internship

This course has both a graphic design-pertinent GPA and portfolio review prerequisites for consideration to apply.

Application to the Graphic Design Internship is open only to students who have completed at least three full semesters of their respective program. Upon acceptance, the student will work and study in close proximity with an art director, graphic designer or creative director from one of several Milwaukee-area creative firms. The study itself will be conducted at the actual location of the firm, giving the student invaluable exposure to the working environment of the creative professional.

COMART-155 Credits: 3

Advanced Visual Design Applications

Admission to this course requires a graphic design-pertinent GPA and portfolio review prerequisites. This course is typically open only to students who have completed at least three full semesters of their program. This course provides in-depth study of design continuity on several levels, including continuity within a visual design program, repurposed design material and the designer's portfolio. Each student will be required to compose an individual study course outline, which will govern the semester project. Students will also present an outcome assessment. Prerequisite(s): COMART-106, COMART-107, COMART-122.

COMART-182 Credits: 3

Graphic Arts Business Skills

Functional business skills for the graphic artist, photographer or multimedia developer are presented. Whether freelancing, managing a production company or working in a consulting capacity, the visual communicator needs basic skills for success and survival. These include marketing, accounting, billing, estimating, and proposal writing skills.

COMPMC–AUTOMATED MANUFACTURING

COMPMC-130 Credits: 3

Inspection/Quality Control

The student will learn a variety of basic skills that will contribute to the quality of outgoing products. Skills will be developed in the interpretation of engineering drawings, and the handling and use of measuring tools. Students will learn about Geometric Dimensioning and Tolerancing (GMT), quality costs and audits, inspection planning and statistical process control.

COMPSW–COMPUTER SOFTWARE

COMPSW-101 Credits: 1

Computer Essentials

This course will introduce students to the important components and functions of the computer: how the computer works with files; the use of Blackboard; the use of student email, MS Word and Excel; searching online; protecting your files; privacy policies online; and more topics.

COMPSW-106 Credits: 3

Introduction to MS Office

This course provides a hands-on overview of software applications, including units of instruction in MS Windows, Word, Excel, Access and PowerPoint. Combined with COMPSW-107, this course can help prepare the student to take the MS Office User Specialist (MOUS) exam.

COMPSW-107 Credits: 3

Intermediate MS Office

Students will develop intermediate-level skill in Windows-based personal computer software including MS Word, MS Excel, MS Access and MS PowerPoint. MATC strongly recommends that students complete COMPSW-106, or have the equivalent skills, prior to enrollment in this course.

COMPSW-110 Credits: 1

Introduction to Windows

This course helps the student learn to manipulate a mouse, to start programs, to control the arrangement of desktop windows, to create shortcuts on the desktop, to manage folders and files, and to use some of the accessories within the Windows environment.

COMPSW-137 Credits: 1

MS Excel - Part 1

Students begin to develop skills in creating worksheets. Skills developed include entering data, building and copying simple formulas, utilizing built-in functions and creating charts.

COMPSW-138 Credits: 1

MS Excel - Part 2

Students develop skill in building more complex formulas, working with multiple worksheets and utilizing powerful data management features including, but not limited to, pivot tables. MATC strongly recommends that students complete COMPSW-137, or have the equivalent skills, prior to enrollment in this course.

COMPSW-139 Credits: 1

MS Excel - Part 3

Students will create data tables, use scenario manager and database query techniques, create more flexible pivot tables, customize Excel, create macros, as well as link and embed data. MATC strongly recommends that students complete COMPSW-138, or have the equivalent skills, prior to enrollment in this course.

COMPSW-150 Credits: 1

MS Access - Part 1

Students are introduced to database concepts. Students will learn to design and create relational database tables, update table information, query databases, and design simple forms and reports.

COMPSW-151 Credits: 1

MS Access - Part 2

Students will create more advanced queries and custom forms, customize reports and integrate Access with other programs. MATC

strongly recommends that students complete COMPSW-150, or have equivalent skills, prior to enrollment in this course.

COMPSW-154 Credits: 1

MS Access - Part 3

Students create and run action queries. Additionally, students will automate tasks with macros, create custom toolbars, write limited visual basic code, and learn how to create a switchboard. MATC strongly recommends that students complete COMPSW-151, or have equivalent skills, prior to enrollment in this course.

COMPSW-165 Credits: 1

MS PowerPoint

Students create presentation quality graphics and computer slideshows. This course provides hands-on training in design, layout, creation and presentation of slideshows, speaker notes and handouts.

COMPSW-180 Credits: 1

MS Sharepoint

This course provides instruction on creation of myMATC intranet websites with Microsoft Sharepoint. Topics covered include content creation, web parts, lists, forms, libraries, integration with the MS Office Suite, navigation and site creation assistance. Advanced topics include views, Microsoft Infopath and site settings.

COMPSW-181 Credits: 1

Introduction to Camtasia

This course covers the basics of Camtasia Studio to create screen capture videos, allowing you to show others exactly what is happening on your screen. Topics include recording videos, video editing options, adding title clips and transitions, and saving and producing videos.

COMPSW-184 Credits: 1

Google Apps for Online Teaching

This course involves techniques and strategies to develop a collaborative online environment for sharing course materials and for communicating online through interactivity and encouraging student engagement. Google Apps includes Gmail (webmail services), Google Calendar (shared calendaring), Google Docs (online document, spreadsheet, presentation and interactive sharing), Google Video (secure and private video sharing), Google Sites (online website creation with videos, images, gadgets and documents integration) and Google Hangouts (for student/group work and faculty interaction).

COMPSW-197 Credits: 1

Introduction to Blackboard 9.X

The basics of the Blackboard learning management system are covered in this course. Topics include customizing both the student and instructor views; creating, loading and editing content; user management; assessment options; creating

assessments; managing the online grade book; using discussion boards; tracking student activities; archiving, copying, exporting and importing content; and site management, design and security. The project in this course is to begin using some of the Blackboard features for one or more of your online or face-to-face courses.

COMPSW-198 Credits: 1

Intermediate Blackboard 9.X

This course focuses on intermediate features of the Blackboard learning management system. Topics include using the assignment feature, creating and using test pools, creating an effective assessment, making changes in the online grade center, using the adoptive release feature to individualize the course for students, customizing a course through use of the course settings and images, creating and deploying a survey. The course also covers basic use of the plagiarism-prevention solution adopted by the college. The project in this course is to begin using some of the intermediate Blackboard features for one or more of your online or face-to-face courses, and a teaching project on an instructor-approved topic. Prerequisite(s): COMPSW-197.

COMPSW-199 Credits: 1

Advanced Blackboard 9.X

This course focuses on advanced features of the Blackboard learning management system. Topics include using the assignment feature, creating and using test pools, creating an effective assessment, making changes in the online grade center, using the adaptive release feature to individualize the course for students, customizing a course through use of the course settings and images, creating and deploying a survey, and finding sources of learning objects and other materials to enhance a Blackboard course. The course also covers basic use of the plagiarism-prevention solution adopted by the college. The project in this course is to begin using some of the advanced Blackboard features for one or more of your online or face-to-face courses. Prerequisite(s): COMPSW-198.

CSG – COMPUTER SIMULATION AND GAMING

CSG-100 Credits: 1

CSG Pre-Entry Evaluation

This course is intended to assess students' skills readiness to enter the CSG program in the areas of logic design creativity, communication, teamwork, artistic creativity and project-based learning skills. It will provide students with a snapshot of the process, areas of skills and the intensity of working in the gaming industry. Students completing this course will be officially admitted into the program. Advising will be provided to students who, after taking this course, are interested in pursuing other program options in similar areas.

CSG-110 Credits: 3

Introduction to Computer Simulation and Gaming

This course provides students with an overview of the computer simulation and gaming industry. Students will be introduced to the genres, gaming development process, ethics, copyright issues and planning, marketing and management concepts. Emphasis will be placed on game objectives, keeping the player perspective and educational applications.

CSG-115 Credits: 3

CSG Production

This course provides students with a hands-on team approach to creating games and simulation. Animation-focused students work side by side with programming-focused students to create simple introductory games and simulations on a game engine. Exposure to content requirements, engine limitations, scheduling, deliverables and communications will be emphasized. Teams will be selected to compete against each other. The focus of this class is to perform rapid prototyping of ideas in a challenging environment while developing collaboration skills. Prerequisite(s): Completion of or currently enrolled in CSG-110.

CSG-117 Credits: 3

Game Logic and Problem-Solving

This course presents a formal approach to logical thinking and problem-solving using game logic concepts. For students to think logically and solve game-play problems, they need to understand game mechanics and game-play choices. This means to use logically valid forms of analysis, critical thinking and application concepts to derive new results from those already known to be implemented in the gaming industry. This course will teach these game problem-solving structures in context with fundamental programming structure application.

CSG-118 Credits: 3

Game Engine Scripting

This course expands on the fundamental concepts introduced in Introduction to Object-Oriented Programming in a gaming environment. Game scripting languages in a game engine environment will be used to create games and simulations. The course emphasizes good software engineering principles and developing fundamental programming skills in the context of a language that supports the object-oriented paradigm. In this course the student applies lessons learned in introductory courses to a pre-existing game class within the game engine. Topics include classic techniques for algorithm design, game mechanics problem-solving in the object-oriented paradigm, and application of algorithm design techniques to a game mod project. Prerequisite(s): CSG-117.

CSG-119 Credits: 3

Designing Interactive Displays

This course introduces students to interactive display systems using a game engine. Focus will be on designing, producing and testing museum-quality programs and simulations for “edutainment” purposes. The class will also emphasize display design concepts such as lighting, sound projection, audience interaction, docent design and user interface technology. Students will be immersed in a team and production environment on a real project for a real client. Prerequisite(s): CSG-118.

CSG-120 Credits: 1

Interactive Display Production 1

See course description on INFOnline at matc.edu.

CSG-121 Credits: 1

Interactive Display Production 2

See course description on INFOnline at matc.edu.

CSG-129 Credits: 2

CSG Architecture

This course provides students with an overall architectural planning concept of a simulation or game. Students will be introduced to level diagrams, flow control, structure and progression diagrams, assessment tools in educational applications and decision-making mapping. Emphasis will be placed on planning, documentation tracking and process monitoring. Prerequisite(s): CSG-110 and CSG-115.

CSG-130 Credits: 3

CSG Design

This course offers students an exploration of the fundamentals of simulation and game design. Students will construct a simple game or simulation using industry standards and test-driven design elements. Emphasis will be placed on the planning, development control and testing process of the simulation or game. Educational applications will also be discussed. Prerequisite(s): CSG-110 and CSG-115.

CSG-131 Credits: 3

Introduction to Game Design

This course provides students with a hands-on team approach to designing games and simulations from the very beginning. Design members will learn theories and applications of game design, as well as the process of design documentation within the game development environment. Exposure to content requirements, scheduling, deliverables and communication will be emphasized.

CSG-132 Credits: 3

Artificial Intelligence

This course provides students with an introduction to artificial intelligence (AI) concepts related to the simulation and game industry. Students will be introduced to basic planning, decision making and testing concepts of AI that add value to simulations and games.

Emphasis will be placed on developing an AI system for simple games to keep the user engaged. Prerequisite(s): CSG-179.

CSG-133 Credits: 3

Intermediate Game Design

This course is designed to teach students how to create lore for characters and environments, as well as advanced combat and economy systems. This is intended to prepare game designers for creating unique worlds and mechanics for all types of games. Focuses will be writing lore, level design, character design, enemy AI, combat design, puzzle design and game economies. This course is intended for game designer-focused students. Prerequisite(s): CSG-115 and CSG-117.

CSG-138 Credits: 3

Advanced Games Design

This course is designed to teach students how to create a unique game world with characters, environments, advanced combat systems and economy systems. This is intended to prepare game designers for creating unique game mechanics for all types of games. Focuses will be world design, level design, character design, enemy AI, combat design, puzzle design and game economies. This course is intended for game designer-focused students or students who want to broaden their creative design skills to support another focus. Prerequisite(s): CSG-133.

CSG-179 Credits: 4

CSG API Programming

This course focuses on OO programming languages and tools used in computer simulations and games. Emphasis is placed on programming concepts used in an existing game engine at the root level of coding. Students will modify existing game code as they develop individual and group mods. The students will also be creating their own object classes to put into the game mechanics. The final project focuses on team programming and testing. Prerequisite(s): CSG-118.

CSG-180 Credits: 3

Multimedia Collaborative Lab

This course allows students to work on collaborative projects with industry, Discovery World or internal MATC departments. Students apply project management skills and their creative skills to create interactive multimedia applications in learning, training or marketing environments. Students can work in teams or independently while guided by faculty. This process simulates an industry team-oriented work environment where faculty, industry and the students are all part of the project planning, monitoring and evaluation. Prerequisite(s): CSG-181.

CSG-181 Credits: 4

CSG Collaborative Lab

This course offers students in the CSG program the opportunity to focus on their CSG project in an effort to produce a game module by the end of fourth semester. It

allows time to just focus on production and testing of the integrated pieces of animation and programming. Prerequisite(s): CSG-129 and CSG-130.

CULART–CULINARY ARTS

CULART-100 Credits: 1

Introduction to Culinary Arts

This introductory course details the worldwide and domestic history of culinary arts and the food service industry. Emphasis is placed upon various types of food service operations, organizational systems, historical and contemporary figures, career opportunities, food trends and the future of the food service industry.

CULART-101 Credits: 5

Culinary Skills 1

Basic principles of food preparation and presentation are taught. A foundational study is made of various cooking methods, styles, trends and procedures applied to major food categories. Scientific principles relating to the physical composition of different foods and the chemical changes involved in the cooking process are analyzed. Principles include: heat transfer, food composition, sanitation practice, personal hygiene, foundation recipes and human relations skills. Prerequisite(s): Completion of or currently enrolled in CULMGT-112; concurrent enrollment in CULART-102.

CULART-102 Credits: 5

Culinary Skills 2

This is an advanced cooking course that places emphasis on specialty soups and sauces, and the fabrication and preparation of meats, poultry and fish. Prerequisite(s): CULMGT-112 and concurrent registration in CULART-101.

CULART-104 Credits: 1

Introduction to Food-Service Cost Control

Basic food-service cost control techniques are studied using production formulas, costing recipes, calculating menu prices, calculating amounts to purchase and prepare, converting recipe yields and calculating cost percentages. Emphasis is placed on viewing mathematical answers in light of true operational considerations. An introduction to basic computer use is also covered. Prerequisite(s): MATH-107 or any 200-level math course.

CULART-105 Credits: 2

Dining Room Service

This course presents an orientation to acceptable hospitality standards essential to the proper planning and arranging of service for public and private functions.

CULART-106 Credits: 3

Catering

Covered are the basic elements of food service catering including: types of catering, typical organization, menu development, staffing, marketing, customer service, food production

and service. Techniques in the planning and preparation of various catering functions are implemented through hands-on events carried out by students. Prerequisite(s): CULART-102.

CULART-107 Credits: 1

Field Experience in Food Service/ Hospitality Industry

Students work 216 hours as regular employees in a food service facility. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility.

CULART-108 Credits: 5

Contemporary Restaurant Cooking

In a practical restaurant kitchen, students plan, organize and prepare contemporary cuisines. To train students for this environment, this course emphasizes universal culinary techniques, intuitive cooking and cross-cultural flavor profiles. Students will learn about locally sourced ingredients and sustainable kitchen practices. Prerequisite(s): CULART-115 and completion of or currently enrolled in CULART-105 and CULART-138.

CULART-110 Credits: 2

Garde Manger

This course is designed to cover specialty techniques in the preparation of various charcuterie, preserved foods, cold food, hors d'oeuvres and decorative food applications. Force meats such as pates, terrines, galantines and sausage are prepared and presented. Brines, cures, marinades, dry rubs and barbecue for various meats and fish are produced. Salad and appetizer production and presentation are covered as well. Prerequisite(s): Completion of or currently enrolled in CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126, CULART-127.

CULART-112 Credits: 5

Business/Industry /Food Service/Catering 1

Students gain practical experience in high volume by rotating through stations to meet course competencies in line-food preparation and the principles of institutional production. Work is detailed for each rotation. In conjunction with MATC Food Services, students participate in catered functions at the college. Prerequisite(s): CULMGT-121, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127 and completion of or currently enrolled in CULART-115, CULART-134, CULART-135, CULART-136, CULART-137.

CULART-113 Credits: 4

Business/Industry/Food Service/Catering 2

Students gain practical experience in high volume by rotating through stations to meet course competencies in line-food preparation and the principles of institutional production. Work is detailed for each rotation. In conjunction with MATC Food Services, students participate in catered functions at

the college. Special emphasis is placed on the cuisines of regional America, Asia, Latin America, Europe and the Mediterranean. Prerequisite(s): CULART-121, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127, and completion of or currently enrolled in CULART-112.

CULART-115 Credits: 1

Culinary Arts Practicum

At the completion of the first year of study, students will be assessed on the application and demonstration of the program competencies required. Competencies include: knife skills; basic cooking procedures including stocks, soups, sauces, dry heat and moist heat applications; vegetable applications; grains; pasta and potato applications; and the fabrication and preparation of meats, poultry and fish. These will be assessed through a practical exam. Prerequisite(s): CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127; also completion of or currently enrolled in CULART-112, CULART-134, CULART-135, CULART-136, CULART-137.

CULART-118 Credits: 1

Sustainable Food Communities

A study of the food service industry's environmental impact on natural resources, and issues related to sustainable methods of green energy, waste reduction and local food sourcing.

CULART-119 Credits: 1

Culinary Science

Basic food science principles as related to cookery are the focus of study in this course. Cooking methods, as well as the function and chemistry of proteins, fats, carbohydrates, flavors and seasonings, are explored as part of the coursework. Prerequisite(s): Completion of or currently enrolled in CULART-121.

CULART-120 Credits: 1

Ethnic and Regional American Cuisine

This course provides an introduction to various types of ethnic and regional American cuisine, including preparation techniques and characteristics of specific foods. Areas of study include American, Asian, European, Latin American and African cuisines.

CULART-121 Credits: 1

Mise en Place/Culinary Fundamentals

Students learn basic kitchen principles of food safety, kitchen organization, knife skills, egg cookery, recipe proficiency, equipment and smallwares identification and usage. Prerequisite(s): Completion of or currently enrolled in CULMGT-102, CULMGT-112, CULART-119.

CULART-122 Credits: 1

Stocks, Soups and Sauces

In this course, students will discuss and prepare consommé, cream, clear, puree and bisque soups. Students prepare a variety of stocks, including white, vegetable, beef, brown and chicken. Students will make a

variety of sauces including the mother sauces and several small sauces. Prerequisite(s): CULMGT-112, CULART-119 and CULART-121, and completion of or currently enrolled in CULART-123, CULART-124, CULART-126 and CULART-127.

CULART-123 Credits: 2

Vegetables, Starches and Grains

Basic principles of vegetable, starches and grains preparation and presentation are taught. Study is made of various cooking methods/styles/trends and procedures applied to these categories. Scientific principles relating to the physical composition of different foods, and the chemical changes involved in the cooking process are analyzed. Principles include: heat transfer, food composition, sanitation practice, personal hygiene, foundation recipes, food processing tools and equipment, state of professionalism and knife skills. Prerequisite(s): CULART-119, CULART-121 and CULMGT-112, and completion of or currently enrolled in CULART-122, CULART-124, CULART-126, CULART-127.

CULART-124 Credits: 1

Meat Identification/Fabrications

This course introduces the student to the subject of meats and their application in food service operations, building a strong foundation that supports the principles to be learned in the cooking courses that follow. Through lectures, demonstrations, hands-on activities and reviews, students learn about the muscle and bone structure of beef, veal, pork, lamb and poultry; fabrication methods for sub-primal and food service cuts; inspection and proper tying and trussing methods. Lectures introduce meat inspection, quality and yield grading, costing and yield testing, purchasing specifications and basic information concerning the farm-to-table trail. Discussions include proper knife selection and butchery equipment, with sanitation and safety standards stressed throughout. Current HACCP procedures and methods are used. Prerequisite(s): CULMGT-112 and CULART-119, and completion of or currently enrolled in CULART-121, CULART-122, CULART-123 and CULART-127.

CULART-125 Credits: 5

Culinary Skills for Baking/Hospitality

Basic principles of food preparation and presentation are taught. A foundational study is made of various cooking methods, styles, trends and procedures applied to major food categories. Scientific principles relating to the physical composition of different foods and the chemical changes involved in the cooking process are analyzed. Principles include: heat transfer, food composition, sanitation practice, personal hygiene, foundation recipe, and human relations skills. There will be an additional focus on classic and modern sandwiches, classic and modern salads, and barista specialty coffee drinks.

CULART-126

Credits: 1

Seafood/Shellfish Cookery

This course is designed to focus on the various types of cooking methods of fish and seafood found in the restaurant industry. Students learn about the history of commercial fishing in the U.S. and other regions of the world. The emphasis of study will include: fabrication of fish and seafood, various cooking methods, aqua culture, sustainability in the seafood industry, and applying various cooking techniques for all of the major seafoods to be studied. Students learn the difference between freshwater fish, farm-raised fish and seafood from the oceans around the world. Prerequisite(s): CULMGT-112 and CULART-119, and completion of or currently enrolled in CULART-121, CULART-122, CULART-123, CULART-126, CULART-127.

CULART-127

Credits: 2

Center of the Plate - Meat Cookery

This course is designed to focus on the various types of cooking methods for proteins found in the restaurant industry, including beef, pork, lamb and veal. The emphasis of study includes various common plating standards used in the industry with the inclusion of starch and vegetables that complement the protein. The use of various garnishing techniques is demonstrated for the student. Prerequisite(s): CULMGT-112, CULART-119 and CULART-121, and completion of or currently enrolled in CULART-122, CULART-123, CULART-124, CULART-126.

CULART-130

Credits: 3

Culinary Competition

A practical course in the planning, preparation and presentation requirements for hot culinary competitions. Categories, guidelines and judges' tips for success will be outlined. Strategies for menu planning and organizational timelines will be covered. Culinary skills, plate arrangement and tasting components will be practiced. Prerequisite(s): CULART-102.

CULART-131

Credits: 2

Advanced Culinary Competition

An advanced practical course in the planning, preparation, presentation and tasting components involved in hot food culinary competitions. Classic Escoffier recipes will be utilized. Competition guidelines and judges' critiques will be discussed. Concepts to be covered will include menu planning, organizational timelines, plate presentations and tasting concepts. Prerequisite(s): CULART-130.

CULART-132

Credits: 3

Culinary Competition 3

This course guides and prepares the student to compete in an ACF competition, from the application process through the actual competition itself. Competencies covered in this course include: knife skills, kitchen

skills, teamwork, organizational skills, planning, communication skills, menu planning and proper sanitation techniques. Prerequisite(s): CULART-130.

CULART-133

Credits: 2

Culinary Competition 4

This course guides and prepares the student to be able to compete in an ACF competition. Competencies covered in this course include equipment usage, knife skills, cold- and hot-food platter preparation, flavor development and presentation. Prerequisite(s): CULART-130.

CULART-134

Credits: 1

American Regional Cuisine

The American regions included in this study are the Eastern heartland, New England, the South, Louisiana, Far West, Northwest and West Coast, including Hawaii. A brief overview of the geography, history and culture of these various regions sets the stage for an introductory study of the primary ingredients and various cooking methods of each region's iconic dishes. Students prepare a variety of food items in lab. Prerequisite(s): CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-135, CULART-136, CULART-137.

CULART-135

Credits: 1

European and Mediterranean Cuisine

Students will discuss and prepare Mediterranean and European cuisines, discuss the history of those regions, and the specific equipment and tools needed to prepare the cuisines. Students will adhere to basic kitchen principles of food safety. Prerequisite(s): CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-136, CULART-137.

CULART-136

Credits: 1

Asian Cuisine

This course provides a general overview of the geography, food history and culture of various areas in Asia, setting the stage for an introductory study of the primary ingredients and cooking methods of the region's traditional dishes. Students prepare a variety of food items in lab. Prerequisite(s): CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126 and CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135, CULART-137.

CULART-137

Credits: 1

South/Central American Cuisine

Students discuss the history of the Latin American region, and prepare dishes from that cuisine using specific ingredients, equipment and tools needed, while adhering to basic kitchen principles of food safety. Prerequisite(s): CULMGT-105, CULART-122, CULART-123, CULART-124, CULART-126 and

CULART-127, and completion of or currently enrolled in CULART-112, CULART-115, CULART-134, CULART-135, CULART-136.

CULART-138

Credits: 2

Restaurant Operations

This course focuses on the concepts of managing a restaurant operation utilizing different styles of dining and restaurant service. Staffing, concepts of menu development, technology trends and marketing strategies are studied in this course. Prerequisites: CULART-115 and completion of or currently enrolled in CULART-105 and CULART-108.

CULART-189

Credits: 1

Culinary Camp

This course is a basic foods lab that focuses on various cooking methods/styles and procedures as they apply to the main food categories. The key topics are sanitation, use of tools and equipment, and cooking methods. Students will be exposed to proteins, sauces, vegetables and starch cookery at a basic level.

CULART-190

Credits: 2

Introduction to Culinary Arts

This course is a foundational food lab that focuses on various cooking methods/styles and procedures as they apply to the main food categories. The key topics are sanitation, use of tools and equipment, recipe dissemination, mise en place and cooking methods. Students will be exposed to meat, fish, poultry, stocks, sauces, vegetable and starch cookery at an introductory level.

CULMGT–CULINARY MANAGEMENT

CULMGT-100

Credits: 1

Applied Food Service Sanitation

Professional standards and practices in the prevention of food-borne illnesses are presented. Students prepare for the National Restaurant Association Certification examination in Applied Food Service Sanitation.

CULMGT-101

Credits: 2

Menu Planning and Design

Students learn to apply the principles of menu planning and menu design as they relate to a variety of hospitality operations.

CULMGT-102

Credits: 2

Food and Beverage Procurement

The concept of food and beverage purchasing are studied with emphasis on sourcing, writing specifications and controlling costs. Prerequisite(s): Completion of or currently enrolled in CULART-119, CULART-121 and CULMGT-112.

CULMGT-103

Credits: 2

Beverage Management

Learn proper methods to purchase, promote, sell, serve alcoholic/non-alcoholic beverages; also legal requirements, sanitation, staffing, motivation of staff, and control procedures.

CULMGT-105 Credits: 3

Culinary Math and Cost Control

See course description on INFOline at matc.edu.

CULMGT-109 Credits: 2

Wine and Beer Pairing

See course description on INFOline at matc.edu.

CULMGT-111 Credits: 3

Catering Operations

This course will cover the basic elements of managing a food-service catering operation. More specifically, the course will provide an overview of different types of catering services along with a listing of fundamental skills necessary for success. Other topics will include strategies for developing event themes, menus and timelines within various physical, financial and legal constraints. Students will gain experience planning, preparing and executing various catering functions. Prerequisite(s): CULART-112 and CULART-113.

CULMGT-112 Credits: 2

Food Service Sanitation

Professional standards and practices in the prevention of food-borne illnesses are presented. Students prepare for the National Restaurant Association ServSafe Certification exam. Prerequisite(s): Completion of or currently enrolled in CULART-119, CULART-121 and CULMGT-102.

CULMGT-115 Credits: 1

Culinary Management Field Experience

Students work 216 hours as regular employees in food service management. The goal of field experience is to give students the opportunity to apply, on the job, the skills learned in the classroom and lab, and obtain a broad overview of an entire facility. Prerequisite(s): CULMGT-102, CULMGT-112, CULMGT-117, CULART-119.

CULMGT-116 Credits: 2

Culinary Management Practicum

This is a capstone course in which students employ all the skills and knowledge gained in the program of study including principles of management, marketing, finance, economics and the hospitality industry. The student will plan a project that incorporates specific content, establishes goals and objectives, identifies evaluation criteria, and establishes a monitoring and reporting schedule. In addition students will practice using the theories and concepts learned by managing the on-campus cafeteria, catering and retail convenience store operations. Prerequisite(s): CULART-112 and CULART-113.

CULMGT-117 Credits: 3

Hospitality Law and Liability

This course provides a study of the nature and function of our legal system as applied to hospitality, restaurant and travel

operations. Operator/guest relationships, contracts, torts, civil rights and insurable risks are emphasized.

CULMGT-118 Credits: 2

Hospitality Leadership

This course introduces students to the principles and techniques required to competitively manage a successful hospitality operation in a rapidly changing environment. The roles, responsibilities and competencies required to perform successfully are presented. Competencies covered include planning, leading, organizing and controlling to efficiently deliver quality products and services. Skills in creative problem-solving and team building are addressed.

CULMGT-140 Credits: 3

Food and Beverage Operations

The complete food and beverage operation in the hotel/motel complex is explored. A basic understanding of the principles of food production and service management, sanitation, menu planning, labor and cost controls, and purchasing is emphasized.

CULMGT-150 Credits: 2

Introduction to Food Terrorism Safety

This introductory course will include topics related to food safety in the overall picture of homeland security. Such topics include an overview of homeland security; food service sanitation; food contaminants; food safety in regards to packaging, transportation and storage of food; the instruction of local food service workers; the treatment of food terrorism victims; and other related topics.

CVTECH–CARDIOVASCULAR TECHNOLOGY

CVTECH-102 Credits: 2

Introduction to CVT

This course will introduce distinctive areas of cardiovascular technology and the role of the technologist. Topics include invasive and noninvasive procedures, department orientation, medical terminology, blood-borne pathogens and nonpatient-related emergencies. Research papers on related topics and a group project will be required. Guest speakers and site visits to local healthcare/diagnostic facilities may be scheduled. Prerequisite(s): Admission to Cardiovascular Technology program (10-521-1).

CVTECH-110 Credits: 2

EKG Analysis

This course will explain the electrical activity of the heart and the various techniques in recording it. Students will identify waveforms and rhythms, correlate them to cardiac events, and troubleshoot and calibrate equipment. Prerequisite(s): Admission to either the Cardiovascular Technology program (10-521-1) or Anesthesia Technology program (10-541-1).

CVTECH-115 Credits: 4

Essentials of Cardiac Care 1

Course concentrates on the cardiovascular system. The focus will be on the structure and function of a healthy adult heart, fetal development of the cardiac system and its respective changes at birth, and congenital and acquired pathologies. Prerequisite(s): Admission to the Cardiovascular Technology program (10-521-1).

CVTECH-117 Credits: 4

Invasive CVT Fundamentals 1

Students are introduced to the cardiac catheterization laboratory. The various pieces of equipment and specific diagnostic and interventional procedures are presented. The student will learn the typical daily duties of an invasive cardiovascular technologist through didactic and laboratory instruction. Competencies will be demonstrated through written examinations, verbal explanations and demonstrations of clinical technique. Prerequisite(s): Admission to Cardiovascular Technology program (10-521-1).

CVTECH-118 Credits: 3

Echocardiography Basics

Echocardiography physics, principles and techniques will be introduced. Ultrasound and Doppler theory; M-Mode, 2D and Doppler echocardiography; instrumentation; artifacts; examination techniques; and physiologic views will be covered. Prerequisite(s): Admission to Cardiovascular Technology program (10-521-1).

CVTECH-120 Credits: 2

CVT Clinical Procedures

This four-week course is the student's first opportunity to observe and gain experience in a healthcare facility. Twelve hours per week are scheduled in the hospital setting under direct supervision observing/participating in all aspects of the cardiac catheterization laboratory technologist's duties. An additional four hours per week are required for on-campus lectures/discussion. A written documentation detailing the clinical phase of instruction will be required. Prerequisite(s): CVTECH-115, CVTECH-117.

CVTECH-121 Credits: 2

Echo Clinical Procedures

This four-week course is the student's first opportunity to observe and gain experience in a healthcare facility. Twelve hours per week are scheduled in the hospital setting under direct supervision observing/participating in all aspects of an echocardiographer's duties. An additional four hours per week are required for on-campus lectures/discussion. Written documentation detailing the clinical phase of instruction will be required. Prerequisite(s): CVTECH-115, CVTECH-118.

CVTECH-132 Credits: 3

Physics of Medicine

This course introduces the theoretical and practical aspects of the physical sciences. The dependence of medical diagnostics and the analogous relationship of the human body to the sciences are emphasized. Topics include flow, pressure, resistance, electronic circuit analysis and Ohm's Law. Prerequisite(s): Admission to either Cardiovascular Technology program (10-521-1) or Anesthesia Technology program (10-541-1).

CVTECH-133 Credits: 3

Cardiovascular Agents

The clinical importance of drug delivery is presented with an emphasis on the most commonly administered cardiovascular drugs, as well as other prophylactic medications. Additionally, the federal drug approval processes, various delivery methods, dose calculations and a review of the nervous system are presented. Prerequisite(s): CVTECH-120.

CVTECH-134 Credits: 3

Hemodynamics

The significance of concise and correct procedural hemodynamic data is presented with an emphasis on understanding the concepts and principles underlying hemodynamics. Topics addressed will include: pericardial disease; appropriate equipment selection and troubleshooting; valvular heart disease; interpretation of arterial, atrial and ventricular waveforms; cardiac output measurement; cardiomyopathies; intracardiac shunt detection. Additionally, the relationship of the cardiovascular and pulmonary systems to hemodynamics is examined with a focus on the principles of PVR, SVR and stroke volume. Prerequisite(s): CVTECH-120.

CVTECH-135 Credits: 4

Essentials of Cardiac Care 2

The structure and function of the major systems of the body are surveyed, with a focus on their interaction and reliance on the cardiovascular system. Lecture studies utilizing models will include cellular, cerebral and nervous, renal, hepatic, pulmonary, lymphatic, endocrine, digestive, muscular and skeletal systems. Prerequisite(s): Admission to Cardiovascular Technology program (10-521-1).

CVTECH-137 Credits: 4

Invasive CVT Fundamentals 2

Invasive CVT didactic, laboratory and clinical knowledge continue to be expanded upon from CVTECH-117. More difficult procedures will be covered along with emergency situations. A review of invasive principles, as a preparation for the RCIS examination, will be included. Prerequisite(s): CVTECH-120.

CVTECH-139 Credits: 2

Invasive CVT Clinical 1

This course presents the student with his or her first opportunity in a direct patient-care setting, while beginning to perform

the duties of a CVT. Here the student will be able to correlate didactic and laboratory classes with the day-to-day duties of a CVT. Prerequisite(s): CVTECH-120.

CVTECH-140 Credits: 4

Echo Instrumentation

This course introduces the specialized techniques of noninvasive cardiovascular testing and the evaluation of cardiovascular anatomy and physiology. Lectures will emphasize the performance and analysis of the echocardiogram, the correlation of echocardiographic findings to normal cardiac anatomy, and the measurement and calculation of specified hemodynamic parameters. Laboratory sessions will incorporate advanced instruction in M-Mode and two-dimensional echocardiography with emphasis on pulsed wave, continuous wave and color-flow Doppler techniques. Prerequisite(s): CVTECH-121.

CVTECH-142 Credits: 3

Echo Case Review

In this course, multiple cardiac pathologies will be studied and addressed through the presentation of echocardiographic case studies. Students will explore a variety of pathologies and how these anomalies can be evaluated through the utilization of cardiac sonography. This course will primarily involve the presentation of case studies and the assessment of clinical abnormalities as seen by cardiac imaging and advanced Doppler techniques. Prerequisite(s): CVTECH-121.

CVTECH-143 Credits: 3

Ultrasound Principles and Physics

This course provides the basic knowledge of the physical principles and instrumentation of diagnostic ultrasound. Topics covered in this lecture course include transducers, color-flow imaging methodology, bioeffects and acoustic output labeling standards. Students will be introduced to how diagnostic ultrasound works, how to properly handle artifacts, scan safely, evaluate instrument performance, and ultimately prepare for board and registry examinations. Prerequisite(s): CVTECH-149.

CVTECH-144 Credits: 3

Advanced Echo Practicum

The structure and function of the cardiac system will be addressed by introducing the specialized techniques of noninvasive cardiovascular testing. There will be an evaluation of cardiovascular sonographic anatomy and physiology through advanced measurement techniques of specified hemodynamic parameters. This course will explore various pathologies and how these anomalies are evaluated by echocardiography. The student will learn how to assess clinical abnormalities of the human heart as it is seen by cardiac imaging and advanced Doppler techniques. Prerequisite(s): CVTECH-121.

CVTECH-145 Credits: 4

Echocardiography Fundamentals

The structure and function of the cardiac system will be addressed, as well as how various pathologies and congenital anomalies are demonstrated and evaluated by echocardiography. Students learn how to assess clinical abnormalities of the human heart as it is seen by cardiac imaging, utilizing conventional and echocardiographic stress-testing intravascular. Prerequisite(s): CVTECH-121.

CVTECH-149 Credits: 2

Echocardiography Clinical Experience 1

This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the echocardiographic clinical setting. A written journal detailing the clinical phase of the instruction will be required. Prerequisite(s): CVTECH-121.

CVTECH-185 Credits: 2

Invasive CVT Clinical Seminar

Students will discuss with other students the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the written journal detailing the clinical phase of instruction. This course will help to prepare students for the written examinations, which lead to credentialing in their chosen specialty. Guest speakers may be scheduled. Résumé writing and interview skills will be covered. Prerequisite(s): CVTECH-139.

CVTECH-186 Credits: 4

Invasive CVT Clinical Experience 2

This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the clinical setting in the student's choice of cardiovascular technology discipline. Prerequisite(s): Completion of or concurrent registration in CVTECH-185.

CVTECH-187 Credits: 4

Invasive CVT Clinical Experience 3

This course is a continuation of CVTECH-186 and provides the practical application to perfect the skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with clinical duties. Prerequisite(s): CVTECH-186.

CVTECH-195 Credits: 2

Echocardiography Clinical Seminar

Students will discuss the cases most recently performed during their clinical experience. Research papers will be required on a variety of related topics, as well as a review of the clinical phase of instruction. This course will help to prepare students for the written registry examination. Guest speakers may

be scheduled. Résumé writing and interview skills also will be covered in this class. Prerequisite(s): CVTECH-149.

CVTECH-196 Credits: 4

Echocardiography Clinical Experience 2

This course provides the practical application of the principles covered in the didactic and laboratory portions of the program. Students observe, assist and perform duties assigned in the echocardiographic clinical setting. Prerequisite(s): Completion of or currently enrolled in CVTECH-195.

CVTECH-197 Credits: 4

Echocardiography Clinical Experience 3

The course is a continuation of CVTECH-196 and provides the practical application to perfect the skills and knowledge through a wider range of cases. Students begin to take a more active and responsible part in the day-to-day tasks associated with their clinical duties. Prerequisite(s): CVTECH-196.

DENAST–DENTAL ASSISTANT

DENAST-302 Credits: 5

Dental Chairside

This course prepares dental assistant students to chart oral cavity structures, dental pathology and restorations, and to assist a dentist with basic dental procedures including examinations, pain control, and restorative and cosmetic procedures. Students will also develop the ability to educate patients about preventive dentistry, brushing and flossing techniques, and dental procedures using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. Prerequisite(s): Admission to the Dental Assistant program (30-508-2) and completion of or currently enrolled in DENAST-304, DENAST-305, DENAST-307, DENHYG-101.

DENAST-304 Credits: 2

Dental and General Anatomy

This course prepares dental assisting students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. Prerequisite(s): Admission to the Dental Assistant program (30-508-2).

DENAST-305 Credits: 2

Applied Dental Radiography

Students develop skill in operation of x-ray units and in exposing bitewing, periapical, extra oral and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students will also process, mount and evaluate radiographs for diagnostic value. Students will demonstrate competency on a mannequin; students also will expose bitewing radiographs on an adult patient. Prerequisite(s): Completion of or currently enrolled in DENAST-314 and DENHYG-101.

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

DENAST-306 Credits: 3

Dental Assistant Clinical

Students apply skills from Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, Dental Professionalism in a clinical setting with patients. Course stresses integration of core abilities and basic occupational skills. Prerequisite(s): Completion of or currently enrolled in DENAST-302, DENAST-304, DENAST-305, DENAST-307, DENHYG-101, DENHYG-113.

DENAST-307 Credits: 1

Dental Assistant Professionalism

This course prepares dental assistant students for professional success in a dental practice or other dental healthcare environment. Students develop a professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the workforce, dental assistant students develop or customize their portfolios and layout an ongoing, professional development plan. Prerequisite(s): Admission to the Dental Assistant program (30-508-2).

DENHYG–DENTAL HYGIENE

DENHYG-101 Credits: 1

Dental Health Safety

Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA standards and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; proof of certification required before beginning the course.

DENHYG-102 Credits: 4

Oral Anatomy, Embry, Histology

Prepares Dental Hygiene program students to apply detailed knowledge about oral anatomy to planning, implementation, assessment and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head and neck anatomy and its relationship to tooth development, eruption and health. Prerequisite(s): NATSCI-177, NATSCI-186, NATSCI-197; minimum grade B-; and DENHYG-101.

DENHYG-103 Credits: 2

Dental Radiography

Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra oral and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount and evaluate radiographs for diagnostic value. Students demonstrate competency on a mannequin. In addition, students expose bitewing radiographs on a peer, role-play patient. Prerequisite(s): Completion of or currently enrolled in DENHYG-102.

DENHYG-105 Credits: 4

Dental Hygiene Process 1

Introduces Dental Hygiene program students to the basic technical/clinical skills required of practicing dental hygienists, including use of basic dental equipment, examination of patients and procedures within the dental unit. Under the direct supervision of an instructor, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. The course also reinforces the application of dental health safety skills. Prerequisite(s): Admission to Dental Hygiene (10-508-1) and completion of or currently enrolled in DENHYG-103.

DENHYG-106 Credits: 4

Dental Hygiene Process 2

This clinical course builds on and expands the technical/clinical skills student dental hygienists began developing in Dental Hygiene Process 1. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients and perio case type 0, I and II patients. Prerequisite(s): DENHYG-102, DENHYG-103, DENHYG-105.

DENHYG-107 Credits: 1

Dental Hygiene Ethics and Profession

This course helps student dental hygienists develop and apply high professional and ethical standards. Students apply the laws that govern the practice of dental hygiene to their work with patients, other members of a dental team and the community. Emphasis is placed on maintaining confidentiality and obtaining informed consent. Through this class, the student will enhance his or her ability to present a professional appearance. Prerequisite(s): DENHYG-101.

DENHYG-108 Credits: 3

Periodontology

This course prepares student dental hygienists to assess the periodontal health of patients, plan prevention and treatment of periodontal disease, and to evaluate the effectiveness of periodontal treatment plans. Emphasis is placed on the recognition of the signs and causes of periodontal disease, and on selection of treatment modalities that minimize risk and restore periodontal health. Prerequisite(s): Completion of or currently enrolled in DENHYG-106.

DENHYG-109 Credits: 1

Cariology

This course focuses on the characteristics and contributing factors of dental decay. Dental Hygiene program students help patients minimize caries risk by developing treatment plans, communicating methods to patients and evaluating treatment results. Prerequisite(s): Completion of or currently enrolled in DENHYG-110.

DENHYG-110 Credits: 2

Nutrition and Dental Health

Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets and to construct diets that meet the needs of patients with compromised dental/oral health. Students also learn to counsel patients about the effects of eating disorders on dental health. Prerequisite(s): DENHYG-101.

DENHYG-111 Credits: 3

General and Oral Pathology

This course prepares the student hygienist to determine when to consult, treat or refer clients with various diseases, infections or physiological conditions. Students learn to recognize the signs, causes and implications of common pathological conditions. Prerequisite(s): DENHYG-102, DENHYG-103, DENHYG-105.

DENHYG-112 Credits: 5

Dental Hygiene Process 3

This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 2. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case type 1, 2 and 3 patients and perio case type 0, I, II and III patients. Prerequisite(s): DENHYG-106, DENHYG-108, DENHYG-109, DENHYG-110.

DENHYG-113 Credits: 2

Dental Materials

Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products and impression materials. They also learn to take alginate impressions on mannequins and clean removable appliances. Prerequisite(s): Completion of currently enrolled in DENHYG-102 or DENAST-302.

DENHYG-114 Credits: 2

Dental Pharmacology

Prepares student dental hygienists to select safe and effective patient pre-medication, local anesthetic, chemo-therapeutic and anti-microbial agents within the scope of dental hygiene practice. Students will also learn to recognize potential pharmacological contraindications for specific patients, and to take measures to avoid negative impact or alert other members of the dental team to possible negative impact. Prerequisite(s): Completion of or currently enrolled in DENHYG-106.

DENHYG-115 Credits: 2

Community Dental Health

This course prepares Dental Hygiene program students to play proactive roles in improving the dental health of community members of all ages. Students perform and interpret dental health research to determine community dental health needs. They also participate

in the development, implementation and evaluation of a community dental health program. Prerequisite(s): Completion of or currently enrolled in DENHYG-112.

DENHYG-116 Credits: 1

Dental Pain Management

This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage pain for dental patients. Students learn to prevent and manage common emergencies related to administration of local anesthesia, prepare the armamentarium and administer local anesthesia. The course also addresses the recommendation of alternative pain control measures. Prerequisite(s): Completion of or currently enrolled in DENHYG-112 and DENHYG-114.

DENHYG-117 Credits: 4

Dental Hygiene Process 4

This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process 3. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, 1, 2 and 3 patients and for perio case type 0, I, II and III patients. The course emphasizes maximization of clinical efficiency and effectiveness, and prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation. Prerequisite(s): Completion of or currently enrolled in DENHYG-112, DENHYG-113, DENHYG-114, DENHYG-116.

DENHYG-130 Credits: 1

Dental Hygiene: Transition Into Practice

This course will prepare students to transition from the educational dental hygiene setting to the career of dental hygiene. Students will prepare for various licensure examinations, prepare a résumé, visit various practice settings, critically evaluate dental hygiene publications, and apply quality assurance and management principles to the practice of dental hygiene. Prerequisite(s): Completion of or currently enrolled in DENHYG-117.

DENHYG-165 Credits: 1

Clinical Dental Hygiene Practicum

The clinical skills learned in DENHYG-105 (preclinic) primarily on mannequins will be further developed through the treatment needs of clients. Evaluation simulations will provide critical feedback to student clinicians, preparing them for their second clinical course in the curriculum. Prerequisite(s): DENHYG-102, DENHYG-103, DENHYG-105.

DENHYG-175 Credits: 2

Practicum in Community Dental Hygiene

As an independent study, this course enables students to use needs assessment, design, implementation and evaluation of a community dental-health program to identify barriers to accessing healthcare, and learn to function as a dental professional in a non-dental community agency.

DENHYG-184 Credits: 2

Periodontal Assessment and Treatment Planning

Treatment planning and assessment options will be discussed in relation to current research data. Case presentations by participants will provide the opportunity for reflection as to the biologic basis of decision-making and potential treatment options. Prerequisite(s): Completion of or currently enrolled in DENHYG-157.

DENHYG-189 Credits: 1

Predictable Local Anesthetics for Dental Hygienist

This course is designed to provide students with comprehensive knowledge and skills in local anesthesia. The course will also include alternative approaches to pain control that could be utilized by a dental hygienist. Prerequisite(s): DENHYG-176.

DIESEL

DIESEL-301 Credits: 2

Diesel Fuel Systems

Students will perform diagnosis, testing and repair procedures on diesel engine fuel-system mechanical components. Prerequisite(s): Admission to the Diesel and Powertrain Servicing program (31-412-3).

DIESEL-306 Credits: 5

Engine Construction and Installation

Students will perform maintenance, adjustments, diagnosis, testing and engine construction. Students will remove and install an engine using the appropriate service manual procedures. Prerequisite(s): DIESEL-301 and DIESEL-307.

DIESEL-307 Credits: 5

Electrical/Electronic Shop

Students become proficient in the use of digital volt/ohm meters (DVOM) and specialized test equipment used for diagnosing electrical/electronic systems. Students will perform diagnosis, testing and repairs using proper service manual procedures. Prerequisite(s): Admission to the Diesel and Powertrain Servicing program (31-412-3).

DIESEL-319 Credits: 5

Driveline Components

Students will perform service procedures on heavy-duty clutch assemblies, manual transmissions, automatic transmissions, differentials and power dividers. Service procedures include maintenance, adjustments, diagnosis, testing, removal, disassembly, assembly and installation. Prerequisite(s): Completion of or currently enrolled in DIESEL-307 and DIESEL-345.

DIESEL-333 Credits: 2

Heavy Truck HVAC Systems

Students will learn the theory and operation of vehicle heating, ventilation and air conditioning (HVAC) systems. Manual and electronic controls, air distribution and A/C system operation are the focus.

Students will learn federal and state laws that pertain to refrigerant usage in vehicle A/C systems. This includes identifying, recycling, recovering, storing and selling refrigerants. Prerequisite(s): DIESEL-307.

DIESEL-338 Credits: 2

Emission Control Systems

Students perform diagnosis and testing of emission systems on mechanical and electronically controlled diesel engines. There will be an emphasis on computer-controlled fuel system diagnosis, testing and repair. Prerequisite(s): DIESEL-307 and DIESEL-301.

DIESEL-341 Credits: 5

Front-End, Brake and Suspension Systems

Students will perform diagnosis, testing and repair procedures of various types of steering and suspension systems, wheel alignment and heavy truck brake systems. Course content includes ABS (anti-lock brake systems) diagnosis, testing and repair. Prerequisite(s): DIESEL-307.

DIESEL-345 Credits: 2

Preventive Maintenance

Students will perform preventive maintenance inspections (PMI) on vehicles using industry-standard procedures. Students will gain an understanding of the proper materials, procedures, safe handling and documentation needed to perform a PMI. Prerequisite(s): Completion of or currently enrolled in DIESEL-307 and DIESEL-319.

DIETNT–DIETETIC TECHNICIAN

DIETNT-101 Credits: 1

Dietetic Technician Career Exploration

Through lecture and lab, this course is designed to provide an exploration of the dietetic technician field. This course is designed for those students who have an interest in becoming a Dietetic Technician Registered (DTR). It is an introductory course designed to give the student a greater knowledge of what a DTR does and what career opportunities are open in the field. The goal of this course is to help the student in making an appropriate career choice.

DIETNT-106 Credits: 2

Food Service Sanitation

Professional standards and practices in the prevention of food-borne illnesses are presented. Students prepare for the National Restaurant Association ServSafe Certification exam. FDA Food Code is reviewed.

DIETNT-107 Credits: 2

Food Science

Students utilize scientific and medical nutrition therapy principles involved in the preparation of food to provide optimum nutrition and palatability. Laboratory preparation techniques emphasize food quality, sanitation and safety.

DIETNT-108 Credits: 3

Food Service Management 1

Basic principles of food preparation and service are reviewed and applied in a quantity food-production unit. Adjunct operational principles of menu planning, procurement, quality assurance, training, sanitation and safety are applied. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1) and completion of or currently enrolled in DIETNT-106.

DIETNT-118 Credits: 1

Food Service Management 1: Coordinated Practice

Basic principles of food service management, human resource management and sanitation are applied in a clinical setting. This course meets the food service management requirement of the Dietary Manager program. Prerequisite(s): CULMGT-100, CULMGT-112 or DIETNT-106, and completion of or currently enrolled for DIETNT-108.

DIETNT-120 Credits: 3

Nutrition for Living

This is an internet/Blackboard course focusing on practical solutions for everyday nutritional needs. Nutrition and menu planning tips will be reviewed for preventable diseases and the life cycle.

DIETNT-123 Credits: 1

Dietetic Technician Orientation

The policies of MATC, the dietetics program and the American Dietetic Association are explained. Students identify and observe standards of practice to function with the healthcare team and to understand the healthcare system. Math calculations and vital signs used in nutritional assessments are introduced.

DIETNT-124 Credits: 3

Medical Nutrition Therapy 1

Students learn to access, plan, implement and evaluate the nutritional and educational needs of individuals at low to moderate nutritional risk. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1); DIETNT-123, DIETNT-151, DIETNT-160, and two semesters of high school chemistry or one semester of college chemistry.

DIETNT-125 Credits: 4

Medical Nutrition Therapy 2

A continuation of DIETNT-124 with emphasis on conditions of moderate to high nutritional risk. Students also evaluate the relevant scientific literature, and develop personal resource files for professional practice. Prerequisite(s): DIETNT-124 and DIETNT-134.

DIETNT-127 Credits: 1

Seminar in Dietetics

Each student will develop an in-depth seminar on a current topic in dietetics, and will present this as a group facilitator and discussion leader. Prerequisite(s): DIETNT-125 and DIETNT-157.

DIETNT-134 Credits: 1

Medical Nutrition Therapy 1: Coordinated Practice

Students learn through clinic activities to access, plan, implement and evaluate the medical nutrition therapy (MNT) for conditions in children and adults at low to moderate risk, in acute healthcare facilities, in coordination with DIETNT-124 didactic activities. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1); DIETNT-151, DIETNT-160, and completion of or currently enrolled in DIETNT-124.

DIETNT-135 Credits: 2

Medical Nutrition Therapy 2: Coordinated Practice

The practice clinical experiences are in coordination with DIETNT-125 dietetic classroom learning experiences. Prerequisite(s): DIETNT-134, DIETNT-152, DIETNT-156, and completion of or currently enrolled in DIETNT-125.

DIETNT-136 Credits: 3

Medical Nutrition Therapy Field Experience

Through clinical experiences, students apply medical nutrition therapy and community principles in a healthcare facility or community health program. Career opportunities and preparation for the ADA registration exam will be discussed in an on-campus lecture format. Prerequisite(s): Completion of or currently enrolled in DIETNT-125 and DIETNT-135.

DIETNT-146 Credits: 3

Food and Nutrition Management Field Experience

Through clinical experiences, students apply management principles by completing department projects according to pertinent regulatory standards. Career opportunities and preparation for the ADA registration exam will be discussed in an on-campus lecture format. Prerequisite(s): DIETNT-124 and DIETNT-167.

DIETNT-151 Credits: 4

Nutrition for Dietetics

This course is a study of nutrients and the nutritional care process, including application to a clinic/lab supervised by a qualified preceptor. This course meets the nutrition care requirement of the Dietary Manager program.

DIETNT-152 Credits: 3

Physiology for Dietetics

The physiology of human organ systems will be studied as it relates to nutrient requirements in health and disease. Organ systems emphasized include renal, liver, gastrointestinal, musculoskeletal, endocrine, nervous, sensory, lymphatic, respiratory and cardiovascular. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1); DIETNT-160 and either DIETNT-151 or NATSCI-172.

DIETNT-155

Credits: 3

Community Nutrition

Students learn, through classroom discussions and field trips, to identify and plan the nutritional and educational needs of community groups, including the utilization of local, state and federal nutritional education and food supplement programs. International and ethnic nutrition concerns will be explored. Prerequisite(s): DIETNT-124 and DIETNT-156.

DIETNT-156

Credits: 2

Nutrition in the Life Cycle

The nutrient and nutritional counseling needs for normal growth and optimal health throughout the life cycle are explored. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1); completion of or currently enrolled in DIETNT-124.

DIETNT-157

Credits: 3

Food Service Management 2

Students learn management techniques in planning, organizing, controlling, delegating and communicating to meet the needs of the various healthcare systems and their regulatory agencies. Prerequisite(s): DIETNT-108, DIETNT-118.

DIETNT-160

Credits: 1

Medical Terminology for the Dietetic Technician

Students study the components of medical words to learn medical terminology for communication with the members of the healthcare team. Emphasis is placed on recognition, pronunciation, definition and spelling of terms and abbreviations.

DIETNT-166

Credits: 1

Nutrition in the Life Cycle: Coordinated Practice

The nutrient and nutritional counseling needs for normal growth and optimal health throughout the life cycle are explored. Students develop and implement teaching plans for the various age groups in the clinical experience. Prerequisite(s): Must be admitted to the Dietetic Technician program (10-313-1); completion of or currently enrolled in DIETNT-156.

DIETNT-167

Credits: 2

Food Service Management 2: Coordinated Practice

Through clinic experiences, students learn modern management techniques to select and train employees, maintain departmental records, purchase food and supplies, supervise meal service, plan meetings, analyze and correct problems, and develop interdepartmental communication. Prerequisite(s): DIETNT-118 and completion of or currently enrolled in DIETNT-157.

DIETNT-170

Credits: 2

Nutritional Counseling Skills

The role of the nutrition therapist is studied to develop counseling relationships with clients in order to achieve behavior change for improved nutritional health. Prerequisite(s): DIETNT-125 and DIETNT-156.

DLABT-DENTAL TECHNICIAN

DLABT-102

Credits: 5

Dental Anatomy

This course is a study of the development, morphology, occlusion and function of the teeth. Laboratory sessions include tooth identification, functional waxing techniques and reproduction of the teeth in wax. Prerequisite(s): Admission to the Dental Technician program (30-507-1).

DLABT-111

Credits: 5

Introduction to Complete Dentures

This course is an introduction to complete dentures. The lecture sessions will cover the theory of complete denture fabrication. The lab sessions will include the procedures utilized to fabricate complete dentures. Lab projects include fabricating custom impression trays, base plates and occlusion rims, model articulation, tooth arrangement, denture wax-up, investing, boiling-out and packing, processing, selective grinding, finishing and polishing complete dentures. Repairs and relines will also be studied. Prerequisite(s): Completion of or currently enrolled in DLABT-102.

DLABT-121

Credits: 5

Introduction to Crown and Bridge

This course is an introduction to the theories and techniques required to design and fabricate cast-metal crowns and bridges. Lecture topics include the theories of model and die production, pattern design, pattern waxing, investing, casting, finishing and polishing cast-metal crowns and bridges. In the laboratory sessions, cast-metal crowns and bridges are fabricated. Projects include model and die production, pattern waxing, spruing and investing, burn-out, casting, finishing and polishing metal crowns and bridges. Prerequisite(s): DLABT-102.

DLABT-128

Credits: 4

Dental Ceramics

This course is an introduction to the theories and techniques required to design and fabricate porcelain-fused-to-metal crowns and bridges. Lecture topics include substructure design, chemistry of dental porcelain and metal alloys, and fundamentals of porcelain application. Color science and shade modification are also studied. Laboratory projects include model and die production, substructure fabrication, porcelain application and finishing, and polishing procedures. Prerequisite(s): DLABT-121.

EBUS-EBUSINESS

EBUS-118

Credits: 3

Social Media Technologies

This course provides an in-depth study of how social media is changing the way companies are marketing to their audience and interacting directly with their customers. Hands-on activities using current and emerging social media tools and

technologies, and how such tools can be used by traditional businesses and ebusinesses, are included. Practical social media marketing case studies will be covered.

EBUS-165

Credits: 3

Web and Social Media Marketing

This course examines, analyzes and evaluates marketing issues facing firms planning to use the internet and other emerging electronic media. The class combines lecture, discussion, case studies, student presentations and computer lab assignments.

EBUS-174

Credits: 3

Business Information Systems

Students will review the components needed to support ebusiness applications. The integration of traditional business systems such as inventory, purchasing and shipping into an ecommerce website will be discussed. Emphasis will be placed on the fulfillment side of the business. Differences between internet, intranet and extranet will be explored; ebusiness will also be discussed including electronic data interchange (EDI) security, application development and Web 2.0.

EBUS-188

Credits: 1

eBusiness Portfolio

As part of the activities of this course, students prepare a portfolio that represents the diversity and caliber of their work. Participation in an annual portfolio exhibit is required. Prerequisite(s): MKTG-117, MKTG-173, BADM-134, VICOM-123 and VICOM-152.

EBUS-191

Credits: 3

CRM - Customer Relationship Management

This course focuses on customer-centric knowledge management in ebusinesses. Coursework explains the fundamental concepts and applications of knowledge management in ebusiness and customer-relationship management. This is not a technology course dealing with the implementation of the system, but a higher level strategy-driven discussion about the development of the blueprint for the system, and the impact it will have on the business. This class is a guide to the system's development. Through reading, lecture, projects, case studies, speakers and web analysis, students will formulate CRM management strategies.

EBUS-198

Credits: 1

eCommerce Internship/Field Project

Utilizing a career management approach, students enhance their ecommerce/web administration skills by working directly with area employers. With faculty approval, either a supervised internship experience or detailed field project is used to demonstrate the student's ability to successfully work in a business environment. Prerequisite(s): 32 EBUS credits.

ECON—ECONOMICS

ECON-195 Credits: 3

Economics

This course is designed to give an overview of how market-oriented economic systems operate. It surveys the factors that influence national economic policies. Basic concept and analysis are illustrated by reference to a variety of contemporary problems and public issues. Concepts include scarcity, alternative economic system, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, ecological and global economic issues.

ECON-201 Credits: 3

Principles of Microeconomics

Covers price mechanisms, price determination in the products and factors markets, analysis of market structures, business decisions with regard to cost analysis, output determinations and employing factors of production. Other topics are regulation vs. deregulation, international trade and economic development.

ECON-202 Credits: 3

Principles of Macroeconomics

This course covers national income and product analysis, financial institutions and the Federal Reserve System, and macroeconomic models and their application to the problems of inflation, unemployment and business fluctuations. The lines between economic problems, theory and public policy are emphasized.

ECON-218 Credits: 3

Urban Economics

See course description on INFOnline at matc.edu.

ECON-219 Credits: 3

Personal Finance and Consumer Economics

This course is designed to provide the necessary knowledge and information to help make one a wiser and more rational consumer, and to develop life-long habits in planning, spending, saving and consumption decision-making.

EDF—EDUCATIONAL FOUNDATIONS

EDF-182 Credits: 1

Preparation for the Pre-Professional Skills Test

This course provides pre-education students with an overview of the PPST/PRAXIS I test battery, including: (1) why it is required for admission to schools of education in Wisconsin, (2) what content knowledge and skills are tested and (3) how to prepare for test success with an emphasis on developing and reinforcing reasoning skills. Students will take a practice test and then be guided through an item-by-item analysis intended to help target areas in need of improvement. Prerequisite(s): ENG-202 and either MATGEN-110 or satisfactory MATC placement test score.

EDF-249 Credits: 2

Orientation to Urban Teaching

This course is designed for the student who is interested in exploring a career in urban K-12 teaching. Students examine the early history and philosophies of schooling. United States abstract writing with APA documentation style is practiced. A classroom observation in the Milwaukee Public Schools system requires criminal background and TB check.

EDF-253 Credits: 3

Issues in Urban Teaching

This course provides students with an opportunity to explore issues related to urban teaching, and to familiarize themselves with programs and curriculum offered in Milwaukee public schools. Students also continue exploring career opportunities in teaching through observations in urban classrooms. Prerequisite(s): EDF-249 or SOCSCI-249 (minimum grade C).

EDF-254 Credits: 2

Field Experience in Urban K-12 Classrooms

This is a field experience/service learning course which provides an overview of school organization, professional standards and classroom management models that have been used successfully in urban schools. Via weekly electronic journal writing in response to questions raised by the field experience and readings, students develop habits of observation and reflection. This is an opportunity for students in the teacher education program to (1) deepen their understanding of how race, language and socio-economic status impact teaching and learning, (2) learn and practice classroom management strategies and (3) become familiar with the culture and expectations of schools and classrooms in the Milwaukee Public School system. Prerequisite(s): EDF-253 or SOCSCI-253.

EDF-255 Credits: 3

Introduction to Teaching

This is intended for students seeking to pursue a degree in education at a four-year college. Course introduces students to the profession of education and teachers' roles. It provides understanding of the context in which education is delivered in culturally pluralistic settings, and opportunity to gain knowledge and experience in interpersonal, observational and organizational skills that underlie teaching. Prerequisite(s): Consent of instructor required.

ELCTEC—ELECTRONIC TECHNOLOGY

ELCTEC-100 Credits: 2

Electronics Co-Op

Provides an opportunity to gain on-the-job training related to the electronics program in which the student is enrolled. The activities are coordinated between industry and the student by the MATC co-op coordinator. Prerequisite(s): ELCTEC-140 or ELCTEC-119.

ELCTEC-102 Credits: 3

Introductory Electronics

This course introduces basic electricity and electronics including simple circuit fabrication and measurements while applying related mathematics. Hands-on lab activities will reinforce concepts. Electronic careers and programs will be explored. Prerequisite(s): Completion of or currently enrolled in MATGEN-110.

ELCTEC-108 Credits: 2

Fundamentals of DC/AC 1

This course is designed for students interested in electronics technology while enhancing their basic skills in mathematics. General mathematical and algebraic skills will be reinforced while being introduced to circuits, using Ohm's Law and associated principles. Hands-on circuit building exercises, basic electronic instruments and report writing will be emphasized in the lab. Prerequisite(s): Completion of or currently enrolled in MATH-113.

ELCTEC-109 Credits: 3

Fundamentals of DC/AC 2

This course, along with ELCTEC-108, helps complete the sequence for students requiring DC and AC Electronics 1 in Electronic Technology programs, while enhancing their mathematical skills. Emphasis will include more complex circuits with the introduction and analysis of AC circuits. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ELCTEC-108, and completion of or currently enrolled in MATH-115.

ELCTEC-110 Credits: 4

DC and AC Electronics 1

An introductory course that presents the scientific foundation used throughout electronics technology. Topics include DC/AC forms of current, voltage, resistance, capacitance, inductance and power. Troubleshooting practices will be emphasized and computer technologies will be used to enhance abstract theory. Students perform laboratory experiments and prepare technical reports. Prerequisite(s): Completion of or currently enrolled in MATH-115.

ELCTEC-111 Credits: 3

DC and AC Electronics 2

This course is an extension of and enhancement to ELCTEC-110 DC and AC Electronics 1. More advanced topics such as complex networks, applicable theorems, polyphase systems and passive filters will be discussed. Computer simulation software will be used to reinforce theoretical analyses. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116.

ELCTEC-112 Credits: 3

DC and AC Electronics 3

This course covers the advanced circuit analysis concepts and techniques used by electronic engineering technologists. After reviewing Kirchhoff's laws, phasors and impedance, focus is placed on superposition nodal analysis, Thevenin's and Norton's theorems, complex power and ideal transformers. Computer simulations will be used to reinforce theoretical analyses. Applications of KVL and KCL are examined with transistor bias networks. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ELCTEC-111 or ELCTEC-116, and ELCTEC-120 or ELCTEC-118, and MATH-197 or MATH-230, and completion of or currently enrolled in ELCTEC-121.

ELCTEC-115 Credits: 4

DC and AC Electronics 1 - Interactive

This is an alternative delivery, interactive course equivalent to ELCTEC-110. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): Completion of or currently enrolled in MATH-115.

ELCTEC-116 Credits: 3

DC and AC Electronics 2 - Interactive

This is an alternative delivery, interactive course equivalent to ELCTEC-111. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116.

ELCTEC-117 Credits: 3

Digital Electronics - Interactive

This is an alternative delivery, interactive course equivalent to ELCTEC-130. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): Completion of or currently enrolled in ELCTEC-115 and MATH-115.

ELCTEC-118 Credits: 4

Electronic Devices and Circuits - Interactive

This is an alternative delivery, interactive course equivalent to ELCTEC-120. Theory presented via multimedia is reinforced by lab experimentation and written technical reports. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116 and ELCTEC-116.

ELCTEC-119 Credits: 3

Introduction to Microprocessors - Interactive

This introductory course is equivalent to the ELCTEC-140 course. It is an alternative delivery course that presents microprocessor basics, including number systems and codes, terms and conventions, arithmetic, programming and interfacing. Lab experimentation reinforces theory. Prerequisite(s): ELCTEC-117 or ELCTEC-130, and completion of or currently enrolled in ELCTEC-118 and MATH-116.

ELCTEC-120 Credits: 4

Electronic Devices and Circuits

The basic operating principles of diodes, transistors, thyristors and linear integrated circuits are presented as they are used in rectifier, amplifier and oscillator circuits. Theory is reinforced with laboratory assembly, measurements, troubleshooting and technical report writing. Prerequisite(s): ELCTEC-110 or ELCTEC-115, and completion of or currently enrolled in MATH-116 and ELCTEC-111.

ELCTEC-121 Credits: 3

Advanced Electronic Devices and Circuits

This course is a continuation of ELCTEC-120 with additional emphasis on transistor models, IC amplifiers, oscillators, active filters, integrators and differentiators, waveshaping and control circuits. Circuit theory is reinforced with laboratory activities and technical report writing. Prerequisite(s): ELCTEC-118 or ELCTEC-120.

ELCTEC-124 Credits: 3

Electronic Circuit Analysis

This course covers advanced topics associated with the analysis of electronic devices and circuits. Students are introduced to using frequency as a variable when analyzing electronic circuits. Bode plots will be used to describe circuit characteristics, and the analysis of resonant circuits will be covered in detail. Small signal analysis of transistor amplifiers will be emphasized to reinforce theoretical analyses. Students will perform laboratory experiments and prepare technical reports. Prerequisite(s): ELCTEC-112 and ELCTEC-121.

ELCTEC-130 Credits: 3

Digital Electronics

This is an introductory course in digital logic devices and circuits. Students learn the basic logic functions, sequential and synchronous logic circuitry, general applications and troubleshooting techniques through hands-on lab work. The computer will be used to generate circuit simulations and technical reports. Prerequisite(s): Completion of or currently enrolled in ELCTEC-110 and MATH-115.

ELCTEC-131 Credits: 3

Advanced Digital Electronics

This is a continuation of Digital Electronics. It provides an in-depth study of logic family specifications, sequential circuits, A/D and D/A, as well as PLD operation and design. Design procedures and design verifications will be demonstrated. Laboratory work will help the students gain skill and competence in digital circuit design and in troubleshooting. Prerequisite(s): ELCTEC-117 or ELCTEC-130, and completion of or currently enrolled in ELCTEC-120.

ELCTEC-133 Credits: 4

Medical Imaging Equipment

Students develop a foundation in the field of medical imaging with a focus on x-ray systems service. Topics include applications

and equipment theory for radiographic, fluoroscopic, vascular and cardiac imaging systems. Classroom knowledge is enhanced through hands-on lab activities that replicate real work situations. Students will calibrate, troubleshoot and repair a variety of radiographic and mammographic equipment. Prerequisite(s): ELCTEC-134, ELCTEC-137, NATSCI-177, and completion of or currently enrolled in ELCTEC-176.

ELCTEC-134 Credits: 4

Biomedical Instrumentation

Students are introduced to the fundamentals of biomedical instrumentation and associated technologies. System and safety tests and measurements are performed using typical equipment found in area healthcare facilities. Students reinforce theoretical concepts while developing practical troubleshooting skills. Prerequisite(s): ELCTEC-120 or ELCTEC-118, and NATSCI-177, and completion of or currently enrolled in ELCTEC-140.

ELCTEC-137 Credits: 2

Biomedical Electronics Technician Internship 1

Students are assigned to area hospitals or clinical technicians to assist with preventive maintenance, calibration and repair of medical equipment. The use and operation of basic test equipment is introduced along with guidelines for properly documenting procedures. Prerequisite(s): Completion of or currently enrolled in ELCTEC-134.

ELCTEC-138 Credits: 2

Biomedical Electronics Technician Internship 2

Under the supervision of hospital or clinic technicians, students enhance their skills by troubleshooting patient-care and diagnostic equipment and various medical imaging systems. Prerequisite(s): ELCTEC-134 and ELCTEC-137, and completion of or currently enrolled in ELCTEC-133.

ELCTEC-139 Credits: 3

Advanced Biomedical Electronics

This course is designed to help prepare students in the biomedical electronics field for taking related professional certification exams. Equipment demonstrations, along with in-depth technical discussions, will culminate internship experiences and previous classroom instruction as it relates to biomedical equipment technician certification. Prerequisite(s): Completion of or currently enrolled in ELCTEC-133 and ELCTEC-138.

ELCTEC-140 Credits: 3

Microprocessors

Students apply microprocessor and bus concepts by designing and building a parallel port, serial port, memory board and other modules that interface to an Intel-based PC system. Diagnostic software is written and oscilloscope measurements are made to test and troubleshoot interfaces built in the lab. Prerequisite(s): ELCTEC-130 or ELCTEC-117, and completion of or currently enrolled in ELCTEC-120 and MATH-116.

ELCTEC-141 Credits: 3

Microcontrollers

This course covers the operation and applications of microcontrollers. Programming and interfacing of these devices and their peripherals are discussed in lecture and experienced in laboratory projects. Prerequisite(s): ELCTEC-140 or ELCTEC-119.

ELCTEC-150 Credits: 3

Data Communications and Networking

This course extends the concepts of digital and analog signals to data communication and networking applications. Conceptual topics include network topology, the principles of signaling on physical links, transmission media, data formatting, analog-to-digital (A-to-D) conversion, multiplexing, modulation using digital data, error control, flow control, local area networks and ethernet protocols. The laboratory includes experiments on A-to-D conversion, data communication signaling and error control. Prerequisite(s): ELCTEC-111, ELCTEC-120 and ELCTEC-140.

ELCTEC-154 Credits: 3

Electronic Communications

The traditional aspects of electronic communications, such as amplitude modulation (AM) and frequency modulation (FM), are studied. Important elements underlying data communication theory and systems are focused on as well. A unique approach, with the aid of laboratory exercises, helps form abstract concepts into practical skills. Prerequisite(s): ELCTEC-111 or ELCTEC-116, and ELCTEC-120 or ELCTEC-118, and completion of or currently enrolled in ELCTEC-140.

ELCTEC-155 Credits: 4

TV Broadcast Systems

This course focuses on the technical aspects of analog and digital broadcast television and radio. Transmit and receive systems along with the discussion of operational parameters are emphasized. Associated FCC rules and regulations in the broadcast industry are also introduced. Signal analysis and equipment diagnosis are used in the lab to reinforce theory and aid in developing troubleshooting skills. Prerequisite(s): ELCTEC-119 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154.

ELCTEC-156 Credits: 4

Advanced Electronic Communications

Advanced study in electronic communications is presented, including wireless communication systems and equipment. Wave propagation, antenna theory, high frequency systems, and FCC rules and regulations are introduced. Lab exercises incorporating working systems reinforce the theory. Prerequisite(s): ELCTEC-154.

ELCTEC-157 Credits: 2

Telephone Systems

Students study plain old telephone systems (POTS) and equipment, with digital system theory incorporated where appropriate. The

physical aspects of equipment interfacing with customer premise equipment, telephone switches, modems, computers and general data communication equipment are presented. Prerequisite(s): ELCTEC-119 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154.

ELCTEC-158 Credits: 2

Digital Communications Systems

This course is an introduction to digital communication and modulation techniques. After the introduction of source and line coding, methods of modulation and demodulation are studied. A block diagrammatic approach is used for experimenting with various formats. Discovery-based learning driven by computer technologies is used to enhance the theoretical concepts. Prerequisite(s): ELCTEC-154.

ELCTEC-162 Credits: 1

Digital Communications

This course is a lab-only version of ELCTEC-158. It provides an introduction to digital communications systems in a lab-based format. Discovery-based learning driven by computer technologies is used to enhance the theoretical concepts. Prerequisite(s): ELCTEC-154.

ELCTEC-165 Credits: 2

TV Broadcast Workshop 1

Students are introduced to the real-time operation of broadcast television in a state-of-the-art analog and digital facility. With the aid of professional broadcast engineers, students perform various operational and maintenance duties. An opportunity to assist in station productions is included. Prerequisite(s): ELCTEC-119 or ELCTEC-140, and completion of or currently enrolled in ELCTEC-154 and ELCTEC-155.

ELCTEC-166 Credits: 2

TV Broadcast Workshop 2

This course is a continuation of TV Broadcast Workshop 1. It provides the opportunity to enhance and acquire some additional skills. Advanced areas of operations and maintenance are included. Various options for production operations are offered throughout the semester. Prerequisite(s): ELCTEC-165 and completion of or currently enrolled in ELCTEC-156 and ELCTEC-158.

ELCTEC-170 Credits: 3

Computer Systems

Students install, configure and upgrade current computer-based hardware including system boards, memory, interface cards, printers and drives. Windows XP with internet and printing capability is installed, configured, protected, updated and used. Word and Excel documents are created. Students browse, search, email and transfer files on the internet. The internet is also used to obtain drivers and current computer technical documentation. Prerequisite(s): Student must be admitted to one of these electronics programs: (10-605-1), (10-605-3) or (10-605-6).

ELCTEC-172 Credits: 3

Input/Output Programming

Students develop C programming language and Intel microprocessor language programs that monitor and control keyboards, displays, printers, serial devices and disk drives. To perform these tasks efficiently, a library of input/output functions is built that consists of ROM BIOS, operating system and student-written function calls. Prerequisite(s): ELCTEC-173 and ELCTEC-174.

ELCTEC-173 Credits: 3

Computing With C

This course is a survey of computer programming and operation. The C programming language is introduced, with emphasis on developing an initial understanding of the architecture common to all computers. The C language becomes a tool in subsequent computer courses. Prerequisite(s): ELCTEC-119 or ELCTEC-140.

ELCTEC-174 Credits: 3

Hardware Systems

Students install, configure, upgrade, maintain, repair, and learn the theory and operation of current computer hardware. Modular level troubleshooting techniques are introduced and developed. Computers, printers, displays and other devices are disassembled, analyzed and assembled. Technical manuals and the internet are used by students to obtain current computer technical documentation. Prerequisite(s): ELCTEC-170 and completion of or currently enrolled in ELCTEC-173.

ELCTEC-176 Credits: 3

Serial Communications and Networks

Students install, configure, test and solve compatibility problems with networked workstations and servers. Print servers, TCP/IP printers, routers, switches and other network devices are installed, configured for security and tested. Web, FTP, DHCP and DNS services are added and tested on Windows and Netware servers. Fundamental user and group management tasks are performed. Various communications media and technologies will be studied. Prerequisite(s): ELCTEC-170 and either ELCTEC-119 or ELCTEC-140.

ELCTEC-178 Credits: 3

Software Systems

Students install the current Windows operating systems, and then add service packs, security, critical updates, printer and network services and other essential components. Configuration, maintenance, troubleshooting and repair tools, integrated into Windows, are examined and utilized. Command line tools are also used. The iMac OSX operating system is installed, upgraded and maintained. The internet is used as a tool to obtain drivers and technical information. Prerequisite(s): Completion of or currently enrolled in ELCTEC-173.

ELCTEC-179 Credits: 3**Advanced Computer Systems**

Students will learn and practice the strategies to identify, isolate and correct failing hardware and software at the component and modular levels. Windows is installed using alternate methods including unattended installation and cloning. Students install the Linux operating system, add web and FTP services, create and manage users and groups, and write scripts. Prerequisite(s): ELCTEC-174 and ELCTEC-178.

ELCTEC-186 Credits: 1**Fabrication Techniques**

This course is a practical approach to construction/repair of electronic equipment. Topics include shop safety, soldering techniques including SMDs, connectors, fasteners, ESD control, use of hand and power tools, PC board layout, schematic interpretation and industrial/military standards. The course includes projects in which theories of topics are applied. Prerequisite(s): ELCTEC-110 or ELCTEC-115.

ELCTEC-192 Credits: 2**Basic Industrial Hydraulics/Pneumatics**

Students are introduced to symbology, diagram logic, operation and application of various hydraulic/pneumatic devices used on an automated machine or automated process as they apply to electronic technology. Prerequisite(s): ELCTEC-119 or ELCTEC-140.

ELCTEC-195 Credits: 4**Motors and Controls**

This course covers the operational characteristics of DC and AC motors, generators and transformers, with particular emphasis on applications. Servometers, tachometers, synchros and resolvers are studied. Prerequisite(s): ELCTEC-111.

ELCTEC-196 Credits: 3**Programmable Controllers**

This course is a study of programmable controllers. The history and principles of operation and the installation, programming and maintenance of the programmable controller are covered in lecture, demonstration and laboratory exercises. Prerequisite(s): ELCTEC-110 and ELCTEC-130.

ELCTEC-197 Credits: 3**Variable Speed Drive Systems**

This course covers the operating characteristics of various types of motors and the operation of devices used in power control. Theory of operation and troubleshooting of speed controls and variable frequency drives are emphasized. Prerequisite(s): ELCTEC-140 and ELCTEC-198.

ELCTEC-198 Credits: 3**Advanced Programmable Controllers**

This course is a study of advanced programmable controller concepts. The advanced features and instructions of the

programmable controller are covered in lecture, demonstration and laboratory exercises. The student applies these concepts to interface the PLC to HMI equipment, robots, VFD motor controls and various communication protocols. Prerequisite(s): ELCTEC-196.

ELCTEC-199 Credits: 3**Automated Systems**

Built upon knowledge of machinery and control fundamentals from previous courses, the student will develop a systems approach to the control of manufacturing operations and industrial process. Systems are analyzed using block diagrams with programmable controllers and robotics incorporated into the systems. Prerequisite(s): ELCTEC-195, ELCTEC-196, and completion of or currently enrolled in ELCTEC-192.

ELECTY–ELECTRICITY

ELECTY-100 Credits: 5**Principles of Electricity**

This course presents the fundamentals of direct and alternating current circuits. Various topics such as electrical instruments, electrical test procedures and electrical symbols are covered. Lectures are reinforced by lab experiments.

ELECTY-120 Credits: 2**Electric Motor Control Wiring**

Motor control diagrams are analyzed. Shop jobs are applied to control circuits. Motor control wiring skills are developed. Prerequisite(s): ELECTY-100, ELECTY-308 and ELECTY-340.

ELECTY-130 Credits: 2**Solid State Devices**

The basic theories of diodes, transistors and thyristors will be studied. The application of these in industrial process controls is analyzed. In addition, the study of transducers used in control circuits for sensing heat, light and pressure is included. Prerequisite(s): ELECTY-100.

ELECTY-140 Credits: 4**Electrical Apparatus**

This course covers the construction and principles of operation of transformers, and both DC and AC motors and generators. Lab experiments are designed to verify operational characteristics by testing the various types of electrical apparatus. Prerequisite(s): ELECTY-100.

ELECTY-150 Credits: 2**PLC Basics**

An introduction to number systems and basic digital terminology leads into the principles of PLCs. Prerequisite(s): ELECTY-100.

ELECTY-155 Credits: 1**Hydraulics/Pneumatics**

Students are introduced to symbology, diagram logic, operation and application of various hydraulic/pneumatic devices used on an automated machine or automated process. Prerequisite(s): Completion of or currently enrolled in ELECTY-100.

ELECTY-308 Credits: 2**Basic Skills for Electrical Wiring**

Students learn the basic skills and basic code rules used in the electrical trade. Several of these skills are developed by repetition while wiring practical lighting control circuits. Prerequisite(s): Completion of or currently enrolled in ELECTY-392.

ELECTY-310 Credits: 2**Cable Wiring**

Trade skills are developed through installing, connecting and controlling the common types of lighting circuits using metal-clad and nonmetallic sheathed cable. The work consists of practical shop jobs. Application of electrical code rules pertaining to concealed wiring is part of each job. Prerequisite(s): Completion of or currently enrolled in ELECTY-308.

ELECTY-312 Credits: 2**Electrical Raceway Installation**

Training is given in the use of hand benders. Mechanical benders, hydraulic benders and wire pulling techniques are covered. The bending skills are utilized by doing several typical conduit installation jobs. Prerequisite(s): Completion of or currently enrolled in ELECTY-308.

ELECTY-314 Credits: 1**Electrical Service Installation**

Practical experience is provided in wiring, installing and connecting the various types of services for lighting, heating and power. A study is made of single-phase and three-phase service requirements and code rules applicable to service installations. Prerequisite(s): ELECTY-308, ELECTY-340, and ELECTY-392.

ELECTY-318 Credits: 5**Electrical Power Distribution 1A**

This course is an introduction to electrical power distribution systems. Emphasis is on the setting and securing of poles, mounting equipment on the poles, and the stringing of power lines. Students work on in-class mockups and on real-height, outdoor setups. Safety is emphasized. Prerequisite(s): Admission to Electrical Power Distribution program (31-413-2).

ELECTY-319 Credits: 4**Electrical Power Distribution 1B**

This course is an introduction to electrical power distribution systems. Emphasis is on the setting and securing of poles, mounting equipment on the poles, and the stringing of power lines. Students work on in-class mockups and on real-height, outdoor setups. Safety is emphasized. Prerequisite(s): ELECTY-318.

ELECTY-320 Credits: 4**Electrical Principles and Applied Math 1**

This introduction to basic electrical principles includes a review of arithmetic and the basics of algebra, which are applied to the solution of electrical problems. The course provides an

introduction to DC circuits. Prerequisite(s): Admission to Electrical Power Distribution program (31-413-2) and completion of or currently enrolled in ELECTY-319.

ELECTY-321 Credits: 2

Line Mechanic Rescue and Safety

Instruction given in pole top rescue, safety, accident prevention and analysis, electrical shock treatment, and accident reporting. Standardized basic first responder and CPR training are included. Prerequisite(s): Admission to Electrical Power Distribution program (31-413-2) and completion of or currently enrolled in ELECTY-319.

ELECTY-322 Credits: 5

Electrical Power Distribution 2A

This course is a continuation of Electrical Power Distribution 1, with emphasis on modification of existing installations and live work. The student reads maps and system plans. Maintaining systems clearance and the use of chainsaws are covered. Prerequisite(s): ELECTY-319.

ELECTY-323 Credits: 4

Electrical Power Distribution 2B

This course is a continuation of ELECTY-322 and features underground (URD) and street lighting systems. Prerequisite(s): ELECTY-322.

ELECTY-324 Credits: 4

Electrical Principles and Applied Math 2

This course continues and concludes the study of DC circuits. This is followed by an introduction to trigonometry with applications to AC circuits and devices. Prerequisite(s): Admission to Electrical Power Distribution program (31-413-2) and completion of or currently enrolled in ELECTY-323.

ELECTY-328 Credits: 2

Electric Motor Control Wiring

Motor control diagrams are analyzed. Shop jobs are applied to control circuits. Motor control wiring skills are developed. Prerequisite(s): ELECTY-308, ELECTY-392 and ELECTY-340.

ELECTY-340 Credits: 2

Electrical Code Fundamentals 1

A study is made of the code rules used most frequently by practicing electricians so that students may acquire a working knowledge of those rules. Prerequisite(s): Completion of or currently enrolled in ELECTY-392.

ELECTY-341 Credits: 1

Electrical Code Fundamentals 2

Students perform a comprehensive study of the NEC and Wisconsin electrical codes and develop skill in code interpretations, as applied to all phases of electrical work. Prerequisite(s): ELECTY-340.

ELECTY-378 Credits: 1

Construction Blueprint Reading

Students study the various types of drawings used in building construction. The reading and interpretation of not only the electrical plan, but also the structural, plot floor,

plumbing, sheet metal and other plans are presented. Prerequisite(s): Completion of or currently enrolled in ELECTY-308.

ELECTY-382 Credits: 1

Electrical Equipment Circuit Analysis

The circuits, materials and installation of electrical equipment for residential heating, ventilating and air conditioning systems are studied. Various wiring diagrams are converted to practical installation layouts. Prerequisite(s): ELECTY-391 or ELECTY-392.

ELECTY-384 Credits: 1

Electrical Design and Estimating

Students draw on their knowledge from previous wiring courses to design and estimate several typical residential installations. Municipal licensing requirements and applicable code articles are studied. Prerequisite(s): ELECTY-310 and ELECTY-312.

ELECTY-386 Credits: 2

Solid State Devices

This course presents a comprehensive overview of solid state devices. Emphasis is on the practical applications of solid state power control. All lecture topics are reinforced through labs to assure understanding of concepts. Prerequisite(s): ELECTY-391 or ELECTY-392.

ELECTY-390 Credits: 3

Principles of Electricity 1

This introductory course in DC/AC fundamentals offers hands-on experience in both the theoretical and practical phases of electricity. Developing skills and techniques associated with electrical circuits and test equipment will be emphasized.

ELECTY-391 Credits: 2

Principles of Electricity 2

This course is a continuation of Principles of Electricity 1. It provides a more in-depth study of DC/AC circuits with special emphasis on reactive circuits and power factor. In combination, the ELECTY-390 and ELECTY-391 course sequence equates in content to the ELECTY-392 course. Prerequisite(s): ELECTY-390.

ELECTY-392 Credits: 5

Principles of Electricity

This course presents the fundamentals of direct and alternating current circuits. Various topics such as electrical instruments, electrical test procedures and electrical symbols are covered. Lectures are reinforced by lab experiments. Required math topics are presented during the course.

ELECTY-394 Credits: 4

Electrical Apparatus

This course covers the construction and principles of operation of transformers, and both DC and AC motors and generators. Lab experiments are designed to verify operational characteristics by testing the various types of electrical apparatus. Prerequisite(s): ELECTY-391 or ELECTY-392.

ELECTY-395 Credits: 3

Electricity for Power Engineering

Basic fundamentals of electricity in the power engineering field of facility maintenance, equipment operation, and repair and power generation are presented.

ELECTY-396 Credits: 2

HVAC/R Electrical Systems

This is a lab course designed to provide the heating, air conditioning and refrigeration student with hands-on experience in wiring mockups of HVAC/R systems. Students operate, analyze, describe sequences and test these systems using various test instruments. Prerequisite(s): Completion of or currently enrolled in ELECTY-398.

ELECTY-397 Credits: 1

Electrical Wiring Methods for Air Conditioning and Refrigeration

This course is designed to familiarize the student with the wiring methods used for heating, air conditioning and refrigeration circuits. It also covers the use of wiring diagrams, and the application of specifications and wiring codes.

ELECTY-398 Credits: 3

Electronic Circuits/Controls for HVAC/R

This course provides a practical knowledge of electricity, its measurement and the circuits used in the field of heating, air conditioning and refrigeration. This is a theory course that covers the functions of electrical controls, and explains servicing techniques and troubleshooting procedures.

EMS—EMERGENCY MEDICAL SERVICES

EMS-192 Credits: 5

EMT—Basic

The Emergency Medical Technician (EMT)—Basic course is five credits of the 70 credits required in the Fire Protection Technician program. This course also serves as a vital link in the chain of the healthcare team. The EMT can recognize the nature and seriousness of the patient condition or extent of injuries to assess requirements for emergency medical care. The EMT will administer appropriate care based on assessment findings. The EMT will lift, move, position and otherwise handle and transport the patient to minimize discomfort and prevent further injury.

EMS-301 Credits: 5

Emergency Medical Technician

This course is designed to provide knowledge and skills training in the area of prehospital emergency medicine with an emphasis on transport of sick and injured persons. This course provides students with the necessary training to participate in the state of Wisconsin examination for licensure as an emergency medical technician.

EMS-311 Credits: 4

Advanced Intermediate Technician

EMT-Intermediate Technician students are Wisconsin licensed EMT-Basics seeking to upgrade their skills to the EMT-Intermediate Technician level. Students will perform emergency patient care, basic life support and limited advanced life support in the field, transporting injured and ill patients to hospital emergency departments. They also perform care in hospital emergency departments. Prerequisite(s): EMS-301.

EMS-911 Credits: 2

EMS Fundamentals

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues and ethical issues, with the intended outcome of improving the health of EMS personnel, patients and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other healthcare professionals. Prerequisite(s): Must be admitted to the Paramedic Technician (31-531-2) program.

EMS-912 Credits: 4

Paramedic Medical Principles

This course addresses the complex depth of anatomy, physiology and pathophysiology of major human systems while also introducing the paramedic students to the topics of shock, immunology and bleeding. Prerequisite(s): Completion of or currently registered for EMS-911.

EMS-913 Credits: 3

Advanced Patient Assessment Principles

This course teaches the paramedic student to integrate scene- and patient-assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life-span development and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients. Prerequisite(s): Completion of or currently enrolled in EMS-912.

EMS-914 Credits: 3

Advanced Prehospital Pharmacology

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. Prerequisite(s): Completion of or currently enrolled in EMS-913.

EMS-915 Credits: 2

Paramedic Respiratory Management

This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. Prerequisite(s): Completion of or currently enrolled in EMS-914.

EMS-916 Credits: 4

Paramedic Cardiology

This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. Prerequisite(s): Completion of or currently enrolled in EMS-915.

EMS-917 Credits: 3

Paramedic Clinical/Field 1

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and healthcare environment experiences with actual patients under the supervision of instructors or approved preceptor. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Prerequisite(s): Completion of or currently enrolled in EMS-916.

EMS-918 Credits: 1

Advanced Emergency Resuscitation

By teaching advanced cardiac life support (ACLS) and pediatric advanced life support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest and peri-arrest states, with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. Prerequisite(s): EMS-917.

EMS-919 Credits: 4

Paramedic Medical Emergencies

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. Prerequisite(s): Completion of or currently enrolled in EMS-918.

EMS-920 Credits: 3

Paramedic Trauma

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and

pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. Prerequisite(s): Completion of or currently enrolled in EMS-919.

EMS-921 Credits: 3

Special Patient Populations

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course. Prerequisite(s): Completion of or currently enrolled in EMS-920.

EMS-922 Credits: 1

EMS Operations

This course provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public and EMS personnel safety. Prerequisite(s): Completion of or currently enrolled in EMS-921.

EMS-923 Credits: 1

Paramedic Capstone Assessment

This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical skills attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum. Prerequisite(s): Completion of or currently enrolled in EMS-922.

EMS-924 Credits: 4

Paramedic Clinical/Field 2

The student will enhance his or her learning through the practice of paramedicine in field and healthcare environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI-DHS-EMS. Prerequisite(s): Completion of or currently enrolled in EMS-919.

ENG–ENGLISH/ COMMUNICATION SKILLS

ENG-151 Credits: 3

Communication Skills 1

The student strengthens speaking, writing and listening skills through practical reading, writing, listening and speaking assignments. Particular emphasis is placed on the writing of sentences, paragraphs and essays, as well as the construction and presentation of short speeches. Prerequisite(s): Satisfactory MATC placement test score.

ENG-152 Credits: 3**Communication Skills 2**

A continuation of Communication Skills 1. Emphasis is placed on the practical application of communication skills through group discussion, persuasion, business writing, the mass media and literature. Prerequisite(s): ENG-151.

ENG-201 Credits: 3**English 1**

Introduces students to the basic principles of college-level composition, research, critical reading and critical thinking with an emphasis on academic writing conventions. In addition to examining the content and structure of academic essays, instruction in sentence structure and usage is provided as needed. Written work for this course consists of essays that are expository and analytical in nature. Major attention also is given to the preparation and writing of a research essay through writing assignments that emphasize finding, evaluating and incorporating appropriate secondary sources into student's written work. Prerequisite(s): Satisfactory MATC placement test score or ENG-152.

ENG-202 Credits: 3**English 2**

Students receive instruction beyond English 201 in advanced composition, research and critical thinking by reading a selection of literary genres chosen by the instructor. Students will increase their understanding and appreciation of the genres by analyzing and writing about prose fiction, drama and poetry. Writing assignments and essays will consist of literary analysis, persuasion and, when appropriate, the use of secondary sources. Major attention also is given to the preparation and writing of a research essay through writing assignments that emphasize finding, evaluating and incorporating appropriate secondary sources into student's written work. Prerequisite(s): ENG-201 (minimum grade C).

ENG-204 Credits: 1**Industrial Artists: Voices and Visions**

This class connects the appreciation of one's trade to the appreciation of art. The students will develop a deeper level of understanding of the voices and visions people use to send messages. Students will not only analyze these two areas, but also communicate using the appropriate vocabulary and tools. This class will expose students to the Eckhart G. Grohmann Collection that is housed at the Milwaukee School of Engineering as part of the activities and assessments. Prerequisite(s): ENG-151, ENG-153, ENG-201 or ENG-345.

ENG-205 Credits: 3**Journalism 1**

This is an introductory course in the principles and practices of news writing and reporting. It aims to develop the student's ability and sense of responsibility in evaluating, gathering and writing news stories. Prerequisite(s): ENG-152 or ENG-201.

ENG-206 Credits: 3**Journalism 2**

The student progresses to reporting and writing stories of a more specialized type. Students learn to find factual data, to assess its validity and to arrange it logically. Reporting assignments within the community provide additional experience in gathering news. Prerequisite(s): ENG-205.

ENG-207 Credits: 3**Creative Writing**

This course provides students the opportunity to write in a variety of literary genres: short fiction, poetry, drama and creative nonfiction. Students will develop their skills by examining examples of literary works in these genres, critiquing their own work, and sharing their work with others in workshops and/or class discussion. Prerequisite(s): ENG-152 or ENG-201.

ENG-208 Credits: 3**Technical Communications**

This course introduces techniques and practices for writing, editing and developing technical communications. Students generate a number of documents, including but not limited to technical reports, proposals and instructions, using a variety of formats, styles, strategies and visuals. Prerequisite(s): ENG-152 or ENG-201.

ENG-212 Credits: 1**Writing the Research Paper**

This course offers the opportunity for students to be guided through the research process with the goal of producing a paper appropriate for a college-level course. Prerequisite(s): ENG-151 or ENG-201.

ENG-213 Credits: 3**American Literature to 1865**

This is an introduction to American writing from the age of exploration to the Civil War. Students will examine early literary sources and consider how literature reflects and influences the lives of those who have lived in what is now the United States. Approaches vary with instructor; materials studied are likely to include early Native American oral traditions and works by authors such as Adams, Bradstreet, Child, Dickinson, Emerson, Franklin, Hawthorne, Jacobs, Melville, Murray, Poe, Rowlandson, Stowe, Thoreau, Wheatley and Whitman. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-151, ENG-152 or ENG-201.

ENG-214 Credits: 3**American Literature Since 1865**

This is a survey of the American literary tradition from post-Civil War writers to the present. Students read a range of major American authors in order to trace the development, influence and practice of American literature. Authors that may be studied in this course include Alexie,

Baldwin, Cather, Chopin, Ellison, Erdrich, Faulkner, Frost, Gilman, Hemingway, Tan, Updike and Walker. Major attention also is given to the preparation and writing of the research paper. Prerequisite(s): ENG-151, ENG-152 or ENG-201.

ENG-215 Credits: 3**Contemporary Literature**

Students study diverse contemporary authors and their work, which includes poetry, short stories, the novel, drama and nonfiction, both creative nonfiction and literary criticism. Historical, cultural, social and political contexts of contemporary literature are considered. The main objectives of the course are to introduce techniques and practices for interpreting, appreciating, discussing, writing and researching about contemporary literature, and to help students improve existing skills for composing and revising written work. Prerequisite(s): ENG-152 or ENG-201.

ENG-217 Credits: 3**World Literature in Translation**

Examines the literary masterpieces of authors around the world from the 1700s to the present. This course analyzes and evaluates the themes, issues and shared visions of these writers with the view to providing insights into the nature of their writings. Prerequisite(s): ENG-151, ENG-152 or ENG-201.

ENG-218 Credits: 3**African-American Literature 1**

African-American literature written during the period from 1760 to 1940 is studied, including slave narratives, poetry, short stories, speeches and essays. Students will consider the literature within a socio-historical context, including such topics as the background of the African-American Renaissance, the Talented Tenth, double consciousness, the rise of the Black Intelligentsia and the Harlem School. This course will prepare students for critical thinking and academic writing about literature. Prerequisite(s): ENG-152 or ENG-201.

ENG-219 Credits: 3**African-American Literature 2**

Covers literature written after the Harlem Renaissance to the present. Students will consider the literature within a socio-historical context and will discuss such topics as the Wright School, protest writers, raceless novels, novels and plays of African-American life, the Black Arts Movement and existentialism in African-American letters. This course will prepare students for critical thinking and academic writing about literature. Students do not need to have completed English 218 in order to enroll. Prerequisite(s): ENG-152 or ENG-201.

ENG-220

Credits: 3

Native American Literature

This course focuses on fiction, drama and poetry written by Native American authors, as well as oral traditional tales such as tribal creation stories and trickster tales by Native American storytellers from throughout North America. Topics will be presented thematically as a means to provide background knowledge and a context for understanding Native American literature of the past and of the present. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201.

ENG-221

Credits: 3

Native American Women in Literature

This is a study of literature written by and about Native American women. Students will explore, analyze and interpret literature from various genres and times, from oral traditional tales to contemporary short stories, novels, poetry and essays. The focus is on the roles of women in Native American communities past and present, as well as on the contributions made to the literary world by Native American women writers. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201 (minimum grade C).

ENG-222

Credits: 3

Images of Women in Literature

The course provides examples of images of women in literature as a creative reflection of, description of and reaction to their social, economic, familial, legal and personal status both in the past and in the present. Students in the course will read and analyze literature to better understand the reasons and motivations for the portrayal of women in literary works that reflect cultural and historical values. Through literary analysis students will strengthen their understanding of how women's roles, and the perception of these roles, have or have not changed. Students in the course will demonstrate appreciation for the literature and reflect on the perceptions of women in literature and society. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201.

ENG-223

Credits: 3

African-American Literature

By and About Black Women

Provides a reflection of women's social, economic and legal status both past and present. The course analyzes and evaluates literature written by and about black women with the goal of focusing critical energy on recovering "her-story," as well as attaining keener insights into the important role of these women in both historical and contemporary life. Prerequisite(s): ENG-152 or ENG-201.

ENG-225

Credits: 3

Holocaust Literature: Out of the Ashes

Examines and explores the literature of eyewitnesses, survivors and perpetrators of the

European Holocaust during the years of 1933 to 1945. This includes fiction and nonfiction, documents, prose, poetry, extant journals and diaries, and commentaries written during and after the Holocaust. Students read, discuss and write about representative texts within the historical, political and cultural contexts of the time. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-151, ENG-152 or ENG-201.

ENG-229

Credits: 3

Literature of Horror

Reflecting the deepest concerns of the society producing them, works in the horror genre are marked by evil and chaos, danger and death, fear and phantoms, the unpredictable and the inexplicable. This course is designed to acquaint students with literary works of masters of the genre. The class analyzes and evaluates themes and issues of horror, allowing students to gain keener insights into the impact on society, past and present. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-151, ENG-152 or ENG-201.

ENG-235

Credits: 3

Utopian and Science Fiction Literature

A survey of selected utopian and science fiction literature that examines the various trends, themes and subgenres in speculative fiction. The course concentrates on the use of these literary genres as a vehicle for social criticism and exploring contemporary concerns. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201.

ENG-240

Credits: 3

Introduction to Modern Cinema

An introductory course in contemporary films. Students view and discuss how films communicate. The course also considers the major theories of film. Out-of-class assignments include viewing and critiquing films. Major attention is also given to the preparation and writing of the research paper. Prerequisite(s): ENG-152 or ENG-201.

ENG-341

Credits: 2

Applied Communications

This course is designed for students preparing to enter an occupation and focuses on reading, writing, speaking and listening skills in the workplace environment. Students will develop skills necessary for effective communication on the job. Basic grammar, word usage, spelling and editing skills are taught in the context of creating cover letters and résumés; preparing for job interviews; writing letters, emails and texts; telephone usage; writing and following instructions; and preparing and giving demonstrations.

ENG-345

Credits: 1

Communications 1

This course is designed for students preparing to enter an occupation and focuses on practical use of written and oral language

in the workplace, including cover letters, résumés, job interviews, telephone skills, and various formal and informal writing.

ENG-347

Credits: 1

Communications 2

This course is designed for students preparing to enter an occupation and focuses on practical use of written and oral language in the workplace, including cover letters, résumés, job interviews, telephone skills, and various formal and informal writing.

ENTREP–ENTREPRENEURSHIP/ SMALL BUSINESS

ENTREP-101

Credits: 3

Introduction to Entrepreneurship

This course takes the student from idea creation to development to monetization. Students will understand market forces, accentuate internal strengths and evaluate market potential. Sections on building the management team, constructing operations and financing the venture will be studied.

ENTREP-102

Credits: 3

New Product Development

Students learn how to take an idea for the product or service, research the size of the market and develop a plan to address the market. Understanding how the consumer values the product or service and how to increase that usage or awareness will be stressed. Sections cover estimating the physical size or value of the market, pricing, creating a cohesive marketing plan and building a distribution channel.

ENTREP-103

Credits: 3

Strategic Business Communication

This course develops the integrated marketing message via electronic and traditional methods. Once a product or service is designed, the next step is to build awareness through consistent means, mixing techniques to adapt and reach intended markets. Students will use a variety of media to understand the potential of the tools. Students explore the positioning of various products to utilize multiple channels to get the intended message to the proper segments. Students create a media supportive strategy for the business by utilizing and exploring current trends in marketing.

ENTREP-104

Credits: 3

Business Plan

Covers the writing of a business plan in detail. Starting with the executive summary describing the venture, to the building of the management team, explaining the operations, targeting the market goals and to projecting the detailed financials, a comprehensive document will be prepared. Accuracy and consistency of all sections of the plan will be expected.

ENTREP-105 Credits: 3

Strategic Business Communications 2

This course specifically develops the skills needed to present the business plan with slides, charts and graphics. Public speaking and team building will be used to enhance the presentation. Networking events will create a level of professionalism.

ENVHEL–ENVIRONMENTAL HEALTH

ENVHEL-101 Credits: 3

Introduction to Environmental Health/ Water Quality

An introductory course to the field of environmental health and water quality. This study includes air, water, soil, food quality; along with communicable and zoonotic diseases. Roles and responsibilities of the environmental practitioner including global environmental health, water quality, sustainability, energy conservation and renewable energy applications are discussed.

ENVHEL-102 Credits: 4

Environmental Biology

This course acquaints the student with basic principles of ecology pertinent to the field of environmental health with emphasis on aquatic ecosystems (ponds, lakes and rivers). Various organisms are studied as indicators of environmental quality or deterioration.

ENVHEL-104 Credits: 4

Industrial Hygiene Technology

Coursework deals with the recognition, evaluation and control of environmental factors in the workplace that affect the health, comfort, safety and well-being of the workers. Types of hazards (gases, vapors, particulates and diseases) are studied. Prerequisite(s): ENVHEL-101, ENVHEL-109.

ENVHEL-105 Credits: 4

Fundamentals of Hazardous Materials Control

Covers properties of materials commonly used in workplaces that are potentially hazardous to workers; techniques of detecting those materials; proper methods of transporting and handling the materials in the workplace. Completion of coursework leads to 40-hour OSHA HAZWOPER certification. Prerequisite(s): ENVHEL-104.

ENVHEL-109 Credits: 4

Applied Environmental Chemistry

The applied approach to environmental chemistry provides students with a review of basic principles and laboratory techniques. The specialized focus includes environmentally related areas of water and wastewater, toxics, air, soil and hazardous materials.

ENVHEL-111 Credits: 4

Applied Water Chemistry and Analysis

Students perform sampling, measurement and interpretation of field and laboratory

analyses of water resources used and treated for drinking water, municipal reclamation, manufacturing, industry, food, beverage, medical use and aquatic ecosystems. The course provides students with a better understanding of water quality monitoring, water treatment and environmental laboratories. This course will include chemical safety, approved methodology, instrumentation use, regulations and QA/QC concerns. Prerequisite(s): ENVHEL-101, ENVHEL-102, ENVHEL-109.

ENVHEL-115 Credits: 4

Air Pollution Technology

This study of the effects of air pollution includes the types of air pollution, their sources and their prevention and control. Various air pollution sampling techniques and air analysis methods are performed by the student. Prerequisite(s): ENVHEL-101, ENVHEL-102, ENVHEL-109.

ENVHEL-119 Credits: 3

Food and Dairy Quality Control

This course covers the application of sanitation principles necessary for food and milk protection. It includes preservation, distribution and serving of food and milk. Also covered are the microbiology of food-borne diseases, food code compliance, and milk pasteurization and testing. Prerequisite(s): ENVHEL-101, ENVHEL-173.

ENVHEL-126 Credits: 3

Environmental Lab Projects

Practical experience in environmental health is gained through individualized placement in a laboratory of an area health department, treatment plant or other environmental health firm or agency. Assignments consist of lab projects, lab placement and an optional internship. Prerequisite(s): ENVHEL-111, ENVHEL-115.

ENVHEL-127 Credits: 3

Environmental Field Projects

Practical experience in environmental health is gained through placement in an area health department, treatment plant, or other environmental health firm or agency. Assignments are highly individualized. Prerequisite(s): ENVHEL-111, ENVHEL-115.

ENVHEL-142 Credits: 3

Principles of Water Resources

This course is the study of water and its uses which includes: history; types of surface water and groundwater sources; water quality; federal, state and local legislation; water conservation and emerging water issues affecting human health and the environment.

ENVHEL-143 Credits: 3

Interpersonal Communication Skills and Environmental Management

Instruction is provided to develop and/or enhance people skills essential to an environmental manager. Students will observe and apply a variety of NLP strategies including

conflict resolutions, recognizing people's communication patterns, and responding appropriately and effectively to those patterns. Prerequisite(s): ENVHEL-111, ENVHEL-115.

ENVHEL-145 Credits: 3

Water/Wastewater Operations - Municipal

Operational procedures and facilities used in public water-supply treatment and wastewater treatment are studied. Methods of establishing and maintaining hydraulic flow and techniques for chemical treatment, nutrient removal, and an overview of applicable regulations are integrated into the course.

ENVHEL-146 Credits: 2

Water/Wastewater Operations - Industrial

The process basics and operational procedures for treating industrial wastewater are studied. Emphasis is placed on proper operation and maintenance, chemical safety, sampling, remedial measures, waste minimization, recordkeeping, and typical wastewater treatment process problems encountered in the industrial setting, including food and beverage industries. Prerequisite(s): ENVHEL-145.

ENVHEL-173 Credits: 3

Environmental Bacteriology

Principles dealing with microbiological organisms, with emphasis on bacteriological applications to the environmental health field, are covered in this course. Students conduct laboratory procedures utilized in the field according to standard methods. Environmental parameters include: water, milk, food and inanimate surfaces. Interpretations of laboratory results are based on applicable standards.

EPROD–EPRODUCTION/TV AND VIDEO PRODUCTION

EPROD-150 Credits: 3

Introduction to eProduction

This survey course provides an introduction to eproduction, the process of creating content for emerging multiplatform delivery. The course examines the importance of traditional video production techniques and their application within emerging content delivery. It also explores similarities and differences between broadcasting and narrowcasting, long- and short-form production, and large vs. small screen presentation. Learners differentiate between forms via hands-on exploration. Hardware and software products are surveyed, and students become familiar with the technology needed to implement promotional schemes for successful eproduction program distribution via the Web, social media outlets and mobile technology. Students will also review the legal ramifications of intellectual property ownership as applied to multiplatform digital authoring.

EPROD-151**Credits: 3****Data Content Management/Implementation**

Explores the workflow and organization of data, from acquisition to editing, to distribution, to archive. By understanding the path that content takes from inception to delivery and beyond, the student will be able to plan distribution systems for content specifically designed for individual applications. Also, the learner will become competent in data asset management, file integration, understanding codes and resolution, and transcoding and consolidation techniques.

EPROD-152**Credits: 3****eProduction Techniques/Implementation**

This course focuses on the principles of design and operation of video systems as incorporated in multimedia, interactive and web design. This includes understanding, choosing and operating appropriate video cameras, digital SLRs, lighting techniques, audio acquisition and nonlinear editing. Students produce and post-produce several productions of increasing complexity for multiplatform delivery.

EPROD-153**Credits: 2****eProduction Practicum 1**

Prepares students to work in the eproduction field by giving them practical real-job experience in a learning-oriented environment. The fundamentals of teamwork, creative applications of technology and organization are emphasized. Job search techniques and job site observations are also discussed. When possible, MPTV's "College Place" initiative will serve as a practical lab for students.

EPROD-154**Credits: 3****eProduction Integration**

As new media and technologies evolve, students will need to not only problem-solve with current electronic tools, but also with an eye toward the future. This course focuses on students' application of their visual content creation skills and understanding of existing hardware and software to design an e-multiplatform presence using those current tools. Additionally, students will be challenged to anticipate the next wave of potential content distributors and plan for seamless multiversioned delivery of their message using technology of the future.

EPROD-155**Credits: 3****eProduction Advanced Techniques**

Students learn how to incorporate their basic and intermediary understanding of multiplatform delivery of audio/visual content with the advanced tools of the trade. Multiversioning of content is emphasized, permitting the student producer to understand how to take concept to creation, as well as air, web, podcasting, social media. An eye toward the future technologies and techniques is the focus.

FDRY–FOUNDRY

FDRY-390**Credits: 3****Molding Processes**

This is a shop course dealing with the basic skills required to produce quality castings. Various methods such as conventional sand molding, chemical cure processes and permanent mold casting will be presented.

FDRY-392**Credits: 3****Mechanized Molding/Coremaking**

A shop course dealing with the operation of various machines associated with metal casting. Hands-on experience is gained on molding and coremaking machinery, plus some ancillary machinery, such as conventional sand mullers, continuous mullers, permanent mold machines, wax presses, ovens, chippers, grinders and cut-off machines.

FIN–FINANCIAL PLANNING

FIN-120**Credits: 3****Introduction to Money, Banking and Financial Markets**

An introduction to the essential elements of money, banking and financial markets while emphasizing the relevance of each in the economy. Topics include financial markets and instruments, financial institutions, central banking, monetary policy, the Federal Reserve System and business cycles.

FIN-122**Credits: 3****Investment Principles**

Students are presented with the information, tools and guidance needed to make educated investing decisions. The investment simulation project provides hands-on experience in stock trading and structuring a portfolio. Prerequisite(s): ACCTG-110 or ACCTG-111.

FIN-170**Credits: 3****Credit Management**

This course provides the knowledge and tools to establish, manage, analyze and control both consumer and business credit. Topics include the credit process, credit management policies and procedures, financial statement analysis, and regulation of consumer credit.

FIN-180**Credits: 3****Financial Statement Analysis**

This is a capstone course for the Banking and Financial Services program. Students will learn the conceptual background and analytical tools necessary to understand the financial aspects of a business. Emphasis is placed on interpreting and analyzing financial statements to plan and forecast financial performance. Prerequisite(s): ACCTG-113, BADM-126.

FIRE–SCIENCE/TECHNOLOGY

FIRE-104**Credits: 3****Fire Internship**

The internship provides an opportunity for students to learn and gain insight into fire department organization and procedures. Students are assigned to a local fire department where they apply knowledge and skills they learned in the classroom while performing the same duties as a working member of that department. Prerequisite(s): EMS-144 or EMS-301.

FIRE-109**Credits: 3****Emergency and Disaster Planning**

The purpose of this course is to provide students with the knowledge and information to assess current programs and/or develop, implement and maintain a program to mitigate, prepare for, respond to and recover from disasters and emergencies. Students identify hazards, the likelihood of their occurrence and the vulnerability of people, property, the environment and the community. Hazards to be considered at a minimum include, but are not limited to, natural events, technological events and human events. Prerequisite(s): FIRE-156.

FIRE-114**Credits: 3****Employability Skills**

This course fine-tunes the skills and abilities that a student has obtained. The student applies that knowledge to the fire service employment application process. Areas examined include the application process, written fire service entrance exams, the interview process, portfolios and the fire fitness evaluation. Students will be given the opportunity to earn their CPAT certification. The course also includes a mock hiring process. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-116**Credits: 2****Fire Department Management**

Students are introduced to beginning management principles in dealing with personnel on the fire company and departmental level. These principles are adapted to both nonemergency and fire ground situations. The course includes the administrative management functions of planning and organizing, as well as problems and guidelines related to the functions of the budgeting process and personnel management. Prerequisite(s): EMS-144, FIRE-109, FIRE-114, FIRE-152.

FIRE-139**Credits: 3****Principles of Emergency Services**

Provides an overview to fire protection, career opportunities in fire protection and related fields, philosophy and history of fire protection/service, fire loss analysis, organization and function of public and private fire protection services, fire departments as part of local government, laws and regulations affecting the fire service and fire service nomenclature.

FIRE-142 Credits: 4

Firefighting Principles

Describes basic fire behavior, techniques used to control structural and related fire emergencies, and life safety practices. Students perform all practical evolutions necessary to control and extinguish fires and otherwise meet all requirements for State of Wisconsin Firefighter Level 1 certification. Prerequisite(s): FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-143 Credits: 3

Building Construction for Fire Protection

Provides the components of building construction that relate to fire and life safety. Students are taught the basic principles of structural design such as: masonry, frame, veneer, structural steel and reinforced concrete constructions. Building codes and fire ordinances as they apply to basic construction are also covered.

FIRE-144 Credits: 2

Advanced Firefighting Principles

See the course description on INFOnline at matc.edu. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-147 Credits: 4

Fire Protection Systems

Provides information relating to the features of design and operation of fire detection and suppression systems. Students gain an awareness of local, state, federal and NFPA fire safety codes and fire inspection procedures. Students also receive instruction on instilling public awareness on how to act in the event of a fire or other disaster.

FIRE-151 Credits: 4

Fire Prevention

Provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, and identification and correction of fire hazards. Meets all requirements for State of Wisconsin Fire Inspector I certification. Prerequisite(s): FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-152 Credits: 4

Hazardous Materials

Examines characteristics relating to hazardous materials including the problems of recognition and mitigation. Prepares students to meet Hazardous Materials Operations and Technician levels. Prerequisite(s): FIRE-142, FIRE-156.

FIRE-153 Credits: 1

Hazmat Awareness and Operations

See the course description on INFOnline at matc.edu. Prerequisite(s): FIRE-143, FIRE-191, FIRE-192, FIRE-193.

FIRE-154 Credits: 2

Hazmat Chemistry

See course description on INFOnline at matc.edu.

FIRE-155 Credits: 4

Fire Protection Hydraulics

Provides a foundation of knowledge in order to understand the principles of the use of water in fire protection including: hydraulics theory, applications, water distribution systems, fire service pumps, hoses, nozzles, sprinkler systems, stand pipes and foam. Principles of water at rest and in motion, friction loss calculations, and engine and nozzle pressure calculations are studied. This course meets all requirements for State of Wisconsin Driver/Operator-Pumper certification. Prerequisite(s): FIRE-109, FIRE-114, FIRE-151, FIRE-152.

FIRE-156 Credits: 4

Strategies, Tactics and Incident Management

Provides an in-depth analysis of the principles of emergency response through utilization of an incident management system. Prepares students to pursue current national ICS training requirements. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-157 Credits: 3

Fire Investigation

Provides students with the fundamentals and technical knowledge needed for proper fire scene investigations. Many topics will be covered including: arson detection, conducting a fire investigation, determining whether the fire is accidental or incendiary, determining fire cause and origin. Prerequisite(s): FIRE-142, FIRE-143, FIRE-153, FIRE-191, FIRE-192, FIRE-193.

FIRE-191 Credits: 2

Principles of Emergency Services

See course description on INFOnline at matc.edu.

FIRE-192 Credits: 3

Principles of Emergency Services Safety/Survival

See course description on INFOnline at matc.edu.

FIRE-193 Credits: 3

Fire Protection Systems

See course description on INFOnline at matc.edu.

FIRE-194 Credits: 3

Fire Protection Hydraulics

See course description on INFOnline at matc.edu.

FIRE-195 Credits: 3

Fire Behavior and Combustion

See course description on INFOnline at matc.edu.

FLANG—FOREIGN LANGUAGE

FLANG-101 Credits: 1

Survival Spanish for Law Enforcement Officers

Upon completion, participants will be able to use Spanish to make arrests, disarm a

suspect, ID individuals, stop and search a vehicle, conduct field sobriety tests, issue warrants, assist in emergencies, read the Miranda Warning, render aid to victims, and manage prisoners and bystanders.

FLANG-104 Credits: 1

Spanish for Dental Staff

Upon completion, participants will be able to use Spanish to register patients, obtain medical history, engage in office etiquette, explain routine procedures, give directions to patients during procedures, explain anesthesia, explain billing procedures, instruct patients concerning medications, instruct patients concerning post-operative problems.

FLANG-105 Credits: 1

Spanish for Nursing

Upon completion, participants will be able to use Spanish to obtain basic information and patient history, obtain vital signs, perform physical assessments, perform routine procedures, prepare patients for surgery or other procedures, administer medications and injections, feed and bathe patients, assist and interact with patients' families, honor patients' requests, assist in emergency situations, identify Hispanic culture traits relating to medical care, reduce fear of hospital settings, and understand Hispanic health belief systems.

FLANG-107 Credits: 1

Survival Spanish - Work and Travel America

Upon completion, participants will be able to use Spanish to greet people, count and tell time, make telephone calls, communicate basic needs in business and travel situations, make simple purchases, ask for a taxi and give directions, request a room and services at a hotel, describe health issues, and order food and beverages at restaurants. Students also learn to identify and cope with common cross-cultural barriers.

FLANG-109 Credits: 1

Spanish for Business Professionals

Upon completion of the program, participants will be able to use Spanish to greet people; engage in etiquette and social pleasantries; introduce oneself and others; count to 2,000; compliment people, food and drink; order food and drink; give directions to a cab driver; register in a hotel; make simple purchases; request emergency assistance; and make and receive telephone calls.

FLANG-110 Credits: 1

Spanish Child Care

Upon completion, participants will be able to use Spanish to greet and exchange general courtesies with parents and guardians, meet parents and register new students, speak about health issues, report on a child's behavior, manage and direct children, compliment children, manage children in emergency situations, and teach basic songs and nursery rhymes.

FLANG-111 Credits: 1

Spanish for Restaurants

Upon completion, participants will be able to use Spanish to greet and depart; compliment people; engage in common etiquette and social pleasantries; use holiday greetings; direct kitchen staff, servers and bussing staff; communicate general rules and safety issues.

FLANG-112 Credits: 1

Spanish for Horticulture

Upon completion, participants will be able to use key phrases in Spanish to greet, compliment and depart; engage in common etiquette and social pleasantries; use holiday greetings; use common commands for planting, moving and removing shrubs, trees, plants; discuss worker safety and schedules; and utilize proper cultural norms to encourage worker satisfaction.

FLANG-113 Credits: 1

Spanish for Horticulture 2

This course is the continuation of FLANG-112. It is designed for non-Spanish-speaking landscapers and horticulturists who want to attain functional language skills and cross-cultural training to comfortably interact with and manage Spanish-speaking employees in the landscaping industry. Prerequisite(s): FLANG-112.

FLANG-116 Credits: 3

Spanish for Child Care Professionals

This introductory approach to conversation provides students with the basic vocabulary and cultural understanding needed for talking with Spanish-speakers in the community and abroad. Specifically related to child care, participants will be able to use Spanish to greet and exchange general courtesies with parents and guardians, meet parents and register new students, speak about health issues, report on a child's behavior, communicate with children, and teach basic songs and nursery rhymes.

FLANG-117 Credits: 3

Conversational Spanish for Service Occupations 1

This introductory approach to conversation presents everyday situations encountered on job sites. The course provides students with the basic vocabulary and cultural understanding needed for working with Spanish-speakers in targeted occupations, at home and abroad.

FLANG-118 Credits: 3

Conversational Spanish for Service Occupations 2

This continuation of FLANG-117 enables students to advance their conversational skills in realistic work-related contexts, while further developing cross-cultural insights needed for interaction with Spanish-speaking employees and clients.

FLANG-119 Credits: 1

Survival Spanish for School Administrators, Teachers and Support Staff

This is a comprehensive program designed to provide functional Spanish language skills

for school personnel who have occasional contact with Spanish-speaking students and visitors. It also includes extensive training for non-Spanish-speaking classroom teachers who have Spanish-speaking students.

FLANG-120 Credits: 1

Basic French for Cuisine

See course description on INFOnline at matc.edu.

FLANG-123 Credits: 3

Intermediate Spanish

Designed to help students build language proficiency and gain cultural awareness by discussing, in the target language, a variety of practical topics related to the Spanish-speaking community. One hour of language lab attendance per week is required.

FLANG-125 Credits: 1

Survival French for Work /Travel

Upon completion, participants will be able to use French to greet people, count and tell time, make telephone calls, communicate basic needs in business and travel situations, describe health issues, and order food and beverages at restaurants. Students also learn to identify and cope with common cross-cultural barriers.

FLANG-126 Credits: 1

French for the Culinary Arts

This course focuses on the acquisition of basic skills in French within the context of culinary arts. It emphasizes pronunciation, use of basic French in restaurants and food critique, study of French regional gastronomic specialties, and identification of values driving French culture.

FLANG-175 Credits: 3

Medical Language Interpretation

Develop interpreting skills needed within the healthcare environment. Learning focuses on general information on healthcare and the healthcare system, functions within hospital departments, healthcare procedures and the terms needed for interaction in the healthcare environment. Culture in interpreting and communication skills for advocacy are explored. This course is bilingual (English/Spanish). Prerequisite(s): INTF-160.

FLANG-200 Credits: 2

Spanish 1A

For beginning students who feel they need more time to complete Spanish 1. This course is the first half of a curriculum that divides Spanish 1 into two semesters. It moves gradually and includes an emphasis on how to learn a foreign language. The course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of the cultures of the Spanish-speaking world. The course is college transferable as Spanish 1 only upon completion of both semesters.

FLANG-201 Credits: 2

Spanish 1B

A continuation of Spanish 1, first semester. This slower-paced course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of the culture of the Spanish-speaking world. Upon completion of this and FLANG-200, students have the equivalent of Spanish 1. Prerequisite(s): FLANG-200 or satisfactory MATC placement test score.

FLANG-202 Credits: 4

Spanish 1

This beginning-level college transfer course offers students an opportunity to acquire communication skills and to develop an awareness of and appreciation for the various Hispanic cultures. One hour of language lab attendance per week is required.

FLANG-203 Credits: 2

Spanish 2A

This course is for continuing students who feel they need more time to complete Spanish 2. In this continuation of FLANG-201, students in Spanish 2A develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. The course is college transferable as Spanish 2 only upon completion of both semesters. Prerequisite(s): FLANG-201 or FLANG-202, or satisfactory MATC placement test score.

FLANG-204 Credits: 2

Spanish 2B

This course is for continuing students who feel they need more time to complete Spanish 2. In this second part of the continuation of FLANG-203, students in Spanish 2B develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. The course is college transferable as Spanish 2 only upon completion of both semesters. Prerequisite(s): FLANG-203 or satisfactory MATC placement test score.

FLANG-205 Credits: 4

Spanish 2

In this continuation of FLANG-202, students develop additional communicative skills in real-life situations and gain a better understanding of the Spanish-speaking cultures of the world in relationship to their own. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-201, FLANG-202, or satisfactory MATC placement test scores.

FLANG-213 Credits: 3

Spanish 3

This course is designed to help students build language proficiency and gain cultural awareness by discussing, in the target language,

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a variety of cultural topics and pertinent current issues. Students will refine grammar skills to improve conversational abilities. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-205 or satisfactory MATC placement test score.

FLANG-214 Credits: 3

Spanish 4

This course is continuation of FLANG-213. Students will continue to study cultural topics. Students will increase vocabulary, refine communicative skills and develop cultural insights. One hour of language lab attendance per week is required. Prerequisite(s): FLANG-213 or satisfactory MATC placement test score.

FLANG-215 Credits: 2

Intermediate Spanish Grammar and Conversation 1

A composition/conversation course that presents a comprehensive review of grammatical principles, verbs and idioms while promoting the four basic language skills of listening, speaking, reading and writing. Language lab attendance of one period per week is mandatory. Prerequisite(s): FLANG-205.

FLANG-216 Credits: 2

Intermediate Spanish Grammar and Conversation 2

A continuation of FLANG-215. Principles of grammar are systematically reviewed with emphasis on the use of the subjunctive and audiolingual practice, as well as the development of speaking, listening and writing skills. Language lab attendance one period per week is mandatory. Prerequisite(s): FLANG-215.

FLANG-218 Credits: 3

Spanish 5: Conversation, Grammar and Current Topics

This course focuses on developing accuracy and proficiency in spoken communication. Building on their experience in Spanish 4, students study the Spanish language in greater depth and breadth. Students continue to refine their language abilities through the study of the Hispanic culture. Current topics, cultural norms and a "tour" of the Hispanic world will offer students the opportunity to study the target culture while using the target language. Prerequisite(s): FLANG-214 or satisfactory MATC placement test score.

FLANG-219 Credits: 1

Spanish Immersion: Music Mexico

Course is designed for the student who has obtained an advanced-beginning proficiency normally acquired through the study of two semesters of college-level Spanish. The course is designed as a two-day-long (16 hours) immersion setting that will help you improve your Spanish fluency through conversation with other students. The cultural focus will allow you to discover a Spanish-speaking community through activities and games.

FLANG-221 Credits: 4

French 1

A conversational approach to learning French that introduces the student to the four language skills – listening, speaking, reading

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and writing. Elementary rules of grammar and exercises are presented. Use of the language laboratory one period each week is mandatory.

FLANG-222 Credits: 4

French 2

The student further develops the ability to comprehend and speak French. The student also completes the study of elementary grammar, and applies the principles of French grammar and syntax to translations and short compositions. Longer and more complicated reading assignments test the student's comprehension. Use of the language lab one period each week is mandatory. Prerequisite(s): FLANG-221.

FLANG-225 Credits: 2

French Conversation 1

This introductory audio-visual course offers students an opportunity to begin developing conversational French skills through speaking and listening activities. The emphasis is on using the spoken language in basic situations; reading and writing skills are also developed, but to a lesser degree.

FLANG-226 Credits: 2

French Conversation 2

In this continuation of FLANG-225, students develop additional conversational French skills through speaking and listening activities. The emphasis is on using the spoken language in everyday situations. Additional reading and writing skills are also developed. Prerequisite(s): FLANG-225.

FLANG-228 Credits: 3

Spanish for Spanish Speakers

Fosters further linguistic development through the emphasis on contemporary issues facing Latinos. This stresses the improvement of writing and speaking professional Spanish, as well as gaining a deeper understanding of the broader Spanish-speaking world. Upon successful completion, students possess an intermediate-mid level of written and spoken Spanish. Prerequisite(s): FLANG-213 or satisfactory placement test score.

FLANG-250 Credits: 2

Chinese 1A

This course is the first of a curriculum that divides Chinese 1 into two semesters. It moves gradually and includes an emphasis on how to learn a foreign language. The course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of Chinese culture. The course is college transferrable as Chinese 1 only upon completion of both semesters.

FLANG-251 Credits: 2

Chinese 1B

This course is the second of a curriculum that divides Chinese 1 into two semesters. It moves gradually and includes an emphasis

on how to learn a foreign language. The course stresses the development of basic communicative skills through practice in listening, speaking, reading and writing. Vocabulary and grammar are emphasized. A study of values and customs provides an increased awareness of Chinese culture. The course is college transferrable as Chinese 1 only upon completion of both semesters. Prerequisite(s): FLANG-250.

FOODS

FOODS-300 Credits: 1

Basic Foods and Equipment

Emphasizes standards of finished products, conservation of nutritive values, foundation recipes, recent developments in food processing, and the relationship of all these to organization and work techniques. Basic equipment for food production is also introduced.

FOODS-305 Credits: 4

Fundamentals of Food Production

The student applies principles of cookery and receives practical experience in institutional food-service operations. Instruction focuses on methods of preparation, standards of finished products, and proper use of production equipment.

FOODS-306 Credits: 4

Fish, Meat and Poultry

The principles of protein cookery are taught in relation to the preparation of meat, fish and poultry. Areas of instruction include identification of meat cuts, basic types of meat cookery, and the selection and application of appropriate cooking methods.

FOODS-307 Credits: 4

Short Order Cookery

A short order line provides practical experience in the methods of frying and grilling foods; sandwich-making techniques; quantity salad, fruit and dessert preparation; and dispensing of fountain items. A unit on breakfast cookery is included.

FOODS-308 Credits: 4

Basic Baking

Laboratory activities provide practical experience in scaling ingredients, mixing and handling batters and dough, and applying icings to baked products. Hot breads, yeast breads and rolls, pies, cakes, cookies and convenience products are prepared.

FOODS-315 Credits: 1

Sanitation and Safe Use of Equipment

Students learn to recognize and practice the prevention of food contamination and spoilage. Attention is given to federal, state and local legislation regulating sanitation and safety standards. Candidates are prepared for the National Restaurant Association certification examination in applied food service sanitation.

FOODS-340 Credits: 1

Nutrition and Menu Planning

Standards of adequate nutrition are presented through lectures, visual aids and class discussions. The basic Eating Right Pyramid is introduced as a guide to menu planning and good nutrition. To avoid waste and poor nutrition, instruction focuses on a systems approach to menu design and portion control. Menu cycles are also discussed.

FOODS-346 Credits: 1

Purchasing and Cost Control

This course will enable the student to identify ways of purchasing food items and equipment for the kitchen. The student will also be able to accurately calculate costs of producing recipes in different amounts.

FOODS-352 Credits: 2

Fundamental Cake Decorating

Practical training is offered in the fundamentals of color and design as applied to cake decorating. Practice is given in executing different borders, flowers and cake tops. Emphasis is on development of skills necessary to create cake decorations that are artistic and appropriate.

FSTEC–FOOD SCIENCE/ INDUSTRIAL MANUFACTURING

FSTEC-101 Credits: 4

HACCP for Food Manufacturing

Hazard analysis and critical control points (HACCP) are explored as systems that can be used at all stages of food production. The system is examined from food production and preparation processes including manufacturing, packaging and distribution. The preliminary stages of HACCP, including preparation and planning and system design, are covered as well as a consideration of food safety hazards and their control. Materials and tools useful to successful HACCP are presented.

FSTEC-102 Credits: 2

Core Manufacturing Skills

In this course, factors that can impact the quality and safety of a food product are investigated. Food manufacturing and distribution practices are examined. Practices that ensure safe food manufacturing processes that deliver products uniform in quality and free from defects and contamination are examined.

FSTEC-103 Credits: 2

Manufacturing Process and Lab Science

The principles of food processing are examined. The stages and unit operations for manufacturing different categories of food products are analyzed. The application of essential food processing principles is explored, including composition analysis in the laboratory and food product labeling.

FSTEC-104 Credits: 3

Food Processing Regulations

Examines the Food and Drug Administration and the U.S. Department of Agriculture regulations of meat and food products in the United States, and the primary responsibility for the safety of these products. Topics addressed include other food regulating agencies, food security, genetic modifications, additives, dietary supplements and food labeling.

FSTEC-105 Credits: 3

Industry Practicum

The student will conduct 216 hours in an on-site work environment in the food processing, electronics fabrication or other micro/nanotechnology-related work environment. For students unable to coordinate an internship, a practicum opportunity may be available.

FSTEC-106 Credits: 3

Food Manufacturing Applications

The course will cover the STEM applications in food manufacturing. The class consists of these four modules – physical and life sciences, technology, mathematics, and careers in food manufacturing.

FSTEC-107 Credits: 3

Manufacturing Food Processes/Schematics/Blueprints

Presents the fundamental principles, concepts, symbols, standards, terminology and manufacturing process notes of food-process manufacturing schematics and blueprints. Students will visualize parts, sections and assemblies through interpretation and sketching.

FSTEC-108 Credits: 3

Food Microbiology

Examines the relationship between microorganisms and the food industry with an emphasis on food safety. Principles of microbial growth, detection and prevention are explored, including industry and regulatory requirements for ensuring food safety. Students conduct laboratory procedures utilized in the food industry according to standard methods and dealing with food preservation, spoilage and food poisoning. Students isolate, identify and quantify specific microbes occurring in foods and food facilities.

FSTEC-137 Credits: 4

Fundamentals of Biotechnology

This course introduces the basic principles of molecular biology used in biotechnology. Emphasis is on providing students with hands-on experience in areas such as gene expression and regulations, recombinant DNA technology, cloning of genes, isolation and purification of DNA, and agarose gel electrophoresis of DNA. Principles of food biotechnology are also explored.

FSTEC-190 Credits: 3

Food Science

Students examine types of processed foods available to consumers, and the processes and scientific principles utilized to make those foods. The food science and technology industry will be studied to understand food processing, food safety, advertising and marketing of processed foods. The relationship between food, additives, manufacturing and health will be examined. The course also provides a brief introduction to career opportunities within the food industry.

FUNERL–FUNERAL SERVICE

FUNERL-105 Credits: 5

Funeral Service Internship Management/Embalming

Students complete a 10-week practical experience in embalming and funeral directing under the direction of a licensed funeral director and college supervisor in an off-campus funeral home approved by the college. On-site meetings, assigned readings, independent research and case reports are included. Prerequisite(s): FUNERL-110, FUNERL-112, FUNERL-116, FUNERL-117, FUNERL-120, FUNERL-131, FUNERL-132, FUNERL-153 and NATSCI-107; also student must be admitted to the Funeral Service program (10-528-1).

FUNERL-110 Credits: 2

Introduction to Funeral Service

An orientation and overview of the funeral and funeral service profession. Primary objectives include the role of the funeral director including personal, professional and ethical qualifications. Study also includes a survey of the history of funeral and burial practices from ancient times to the present. Prerequisite(s): Completion of or currently enrolled in FUNERL-116.

FUNERL-112 Credits: 2

Funeral Service Law

The study of principles and rules governing the practice of mortuary science as they relate to both practitioners and establishments. Topics include legal and disposal status of human remains, liability for funeral expenses and more. Emphasis is on laws of Wisconsin. Prerequisite(s): BADM-160.

FUNERL-116 Credits: 4

Funeral Service Practices

The mechanics of funeralization from the first notification of death through the committal are presented, with emphasis on the funeral service procedures of various religions, as well as fraternal and military groups. Includes some computer application.

FUNERL-117 Credits: 4

Funeral Service Management

The funeral director as an effective managerial person is presented. Coverage includes small business management

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concepts, FTC regulations, governmental death benefits, trusting, employer/employee relations and public relations. Merchandising – including casket/vault construction and merchandise arrangement, presentation and pricing – is presented, as well as computer applications to funeral service. Prerequisite(s): FUNERL-112, FUNERL-116.

FUNERL-120 **Credits: 3**

Restorative Art

Proportional relationships and the anatomical structure of the facial area of the human skull are studied. Principles of wax modeling, color theory and cosmetic principles are presented. The sequence, materials and legal aspects for most restorations are discussed. Students practice restorative art in laboratories provided by the college. Prerequisite(s): NATSCI-138 or NATSCI-177.

FUNERL-131 **Credits: 4**

Embalming 1

The history, purpose, ethical and sanitary considerations in handling human remains are stressed. Basic procedures, instruments, equipment employed, body positioning, feature posing, vessel selection, injection methods, types of embalming chemicals and dilution of arterial fluids are introduced. Students practice embalming in laboratories provided or approved by the college. Prerequisite(s): NATSCI-138 or NATSCI-177; also student must be admitted to the Funeral Service program (10-528-1).

FUNERL-132 **Credits: 4**

Embalming 2

Continuation of Embalming 1, dealing primarily with drainage, cavity treatment, trauma and post-mortem conditions. Special emphasis is placed on problem cases and their treatment. Students practice embalming in laboratories provided or approved by the college. Prerequisite(s): FUNERL-131; also student must be admitted to the Funeral Service program (10-528-1).

FUNERL-153 **Credits: 3**

Psychology of Funeral Service

Grief, its manifestations and the effects of the manner and cause of death on the grief reaction are studied. Counseling techniques used by the funeral director, along with methods of grief resolution, are discussed. Emphasis is also placed on the application and purpose of sociology in funeral service. Prerequisite(s): PSYCH-199.

GENCOL–GENERAL STUDIES (PLI)/COLLEGE SUCCESS

GENCOL-104 **Credits: 2**

College Success

This course assists the incoming student in developing the strategies essential to success in college: planning/time management, responsibility, self-confidence, assessing

career goals, developing research and critical thinking skills, and becoming familiar with college resources and services. This course has a mandatory service learning component.

GENCOL-106 **Credits: 3**

College, Work and Life Success

This course provides learners with strategies to develop skills for success in college. Learners will apply self-management techniques, explore resource management strategies, create a personalized “College Success Tool Kit” and learn ways to improve personal effectiveness.

GENENG–GENERAL (PLI)/ENGLISH

GENENG-103 **Credits: 3**

Introduction to College Writing

Introduces basic principles of composition, including development, unity and coherence in paragraphs and multiparagraph documents. A further goal of this course is to assist students in demonstrating the correlation between paragraphs and an essay. Prerequisite(s): COMMB6-761 or satisfactory MATC placement test score.

GENREA–GENERAL (PLI)/READING

GENREA-105 **Credits: 3**

Introduction to Reading and Study Skills

See course description on INFOnline at matc.edu. Prerequisite(s): READB6-767 or satisfactory MATC placement test score.

GENST–GENERAL STUDIES

GENST-103 **Credits: 3**

College Success Strategies

This class focuses on developing the skills and attitudes students need to be successful in college. Topics studied include time management, research and writing skills, oral communication, study skills and making a career choice.

GLOBAL–GLOBAL SERVICES

GLOBAL-115 **Credits: 3**

International Field Studies

Emphasizes the importance of integrating international awareness in the student's program. Students explore the facets of the international environment by examining ethical, cultural, social and organizational similarities and differences.

GLOBAL-120 **Credits: 2**

Hmong 1

This course introduces the basic Hmong language through listening, speaking, reading and writing exercises. Students are given opportunities to analyze language and its continuing significance. Students will become familiar with key aspects of Hmong tradition, culture and contemporary life.

HEALTH

HEALTH-100 **Credits: 1**

Success Strategies/Service Learning

In this interactive, blended course, students interested in health sciences employment investigate a variety of health-related careers. Academic and community service-learning activities are integrated into the course. Service learning will provide an authentic exposure to healthcare careers. Learners explore health careers and critically analyze the role of various healthcare team members. Service-learning experiences provide an opportunity to compare personal motivations, skill sets and desires with the roles and responsibilities of various healthcare professionals. Students will strengthen academic and personal skills necessary for success in their chosen fields of study. They will integrate academic success strategies with experiences learned through service-learning activities.

HEALTH-101 **Credits: 3**

Medical Terminology

Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Course emphasis is on spelling, definition and pronunciation. It provides an introduction to operative, diagnostics, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

HEALTH-104 **Credits: 2**

Healthcare Customer Service

An introduction to customer service for students interested in working in various healthcare settings. The student investigates healthcare systems, safety standards and the workforce. The student examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service in healthcare.

HEALTH-105 **Credits: 1**

Medical Terminology - Introduction

This course promotes knowledge of the elements of medical terminology for professional development. Emphasis is placed on the ability to spell and pronounce medical terms, an understanding of medical abbreviations, and an appreciation of the logical method found in medical terminology including word analysis and word building.

HEALTH-107 **Credits: 2**

Introduction to Healthcare Computing

An introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems, and the application of computers in the workplace. The course emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheet, database, internet and electronic mail.

HEALTH-160 Credits: 2

Study Strategies for Health Occupations

This course focuses on creative thinking, brain-based learning principles, information processing and memory strategies, as well as life management skills. Learning strategies are taught to assist learners in integrating and processing technical information in a meaningful way.

HEALTH-308 Credits: 2

Pharmacology for Allied Health

Introduces students to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparations, and administration of medications used by the major body systems. Prerequisite(s): HEALTH-101, MEDAST-302.

HIST–HISTORY

HIST-201 Credits: 3

Europe From the Renaissance to Napoleon

This course is a survey of the political, economic, social and cultural developments in European history, from the late Middle Ages to 1815.

HIST-202 Credits: 3

Europe From Napoleon to the Present

This course is a survey of the political, economic, social and cultural developments in European history from 1815 to the present.

HIST-203 Credits: 3

Western Civilization From Ancient Times to 1776

This course surveys the evolution of Western civilization from ancient times to 1776. Special emphasis is placed on the development and interactions of the political, social, religious and economic institutions that form the foundations of Western civilization today.

HIST-204 Credits: 3

Western Civilization From 1776

This course surveys the evolution of Western civilization from 1776 to the present time. Special emphasis is placed on the development and interactions of the political, social, religious and economic institutions that form the foundations of Western civilization today.

HIST-205 Credits: 3

Contemporary World Affairs

This course begins with an overview of the Cold War and the post-Soviet world and then examines the most important foreign policy issues and controversies, including U.S.-Russian relations and the Middle East. The course changes yearly to focus on the most current events and conflicts. Emphasis is placed on the historical background, key events and individuals, as well as differing interpretations of these issues.

HIST-206 Credits: 3

America Since 1945

This course analyzes domestic and foreign policy of the United States since World War II. Beginning with the Truman administration, it moves through the current time. The emphasis is on changes in America's role in international affairs, growth in presidential power and changes within American society. Special attention is devoted to the Middle East, Asia, Latin America, the Civil Rights Movement, the Cultural Revolution of the '60s and New Federalism.

HIST-207 Credits: 3

20th Century European History

Designed to help the student develop a sensitive appreciation of present-day Europe, the course covers significant events and changes that have occurred in Europe since 1900. Special emphasis will be given to the institutions, ideas and the creative works that the Europeans developed during the 20th century.

HIST-210 Credits: 3

Women in American History

This course provides an analysis of the experiences of women in the development of America. Emphasis is placed on the impact of women in the political, economic and social events that shaped the nation, and women's growing awareness of their roles in society.

HIST-211 Credits: 3

America Through 1877

A survey of the history of the United States from 1500 to 1877. Emphasis is placed on colonial development, the movement for independence and the establishment of government under the Constitution. Special attention is devoted to the evolution of political democracy, economic developments, the emergence of the sectional controversy leading to the Civil War, and the period of Reconstruction that followed.

HIST-212 Credits: 3

America Since 1877

The major developments in United States history from the 1870s to the present are traced. Attention is focused on industrialization, urbanization, development of the West, reform movements and the emergence of the United States as a world power.

HIST-213 Credits: 3

America: 1921-1945

This course focuses on Americans in prosperity, Depression and war. It assesses the successes and failures of people, famous and not so famous, who confronted economic and social disasters at home, and tyranny abroad.

HIST-214 Credits: 3

African-American History

A comprehensive introduction to the historical and sociological background of African-American people. An African-

centered approach will be used to focus on the political, economic and cultural history of African-Americans from 3900 B.C. to 1865. An analysis is made of the cultural and historical policies and practices that have shaped African-American people's relationships with other people of the world.

HIST-215 Credits: 3

African-American History and Culture

A comprehensive study of African-American history since the Civil War. An African-centered approach will be utilized to analyze the political, economic and cultural history of African-Americans from 1865 to the present.

HIST-216 Credits: 3

History of American Minorities

This course highlights the role of minorities in the history of America. The cultural, social and political history of African-Americans, Hispanic-Americans, Asian-Americans and other European immigrants are studied. A cross-cultural approach shows the distinctive cultural patterns of the various groups and their contributions to the dominant culture.

HIST-217 Credits: 3

Contemporary Civil Rights

This course familiarizes the student with the period of history commonly referred to as the modern Civil Rights era, 1953 to 1969. It introduces the student to the events, individuals and social, political and religious linkages and activities that give this period its historical relevance and prominence.

HIST-218 Credits: 3

Native American History

The purpose of this course is to provide an introduction to Native American history and culture. Indian/non-Indian relationships over time will be the central focus of the course.

HIST-219 Credits: 3

Wisconsin Indians Past/Present/Future

This course presenting the history of Wisconsin Indians is designed to provide all Wisconsin residents, Indian and non-Indian, with an in-depth understanding of indigenous people from Wisconsin. The course provides the student with data, prehistorical and historical, in order to cover the broad range of time involved in the study of the Wisconsin Indian Nations.

HIST-220 Credits: 3

History of Capitalism and Labor

This course traces the development of capitalism from its origins in self-sufficient, nonmarket agrarian societies through the Industrial Revolution to postindustrial capitalism. Emphasis is placed on the relationship of business organization, managerial techniques, technological change and emergent forms of labor organization.

HIST-226 Credits: 3

African History 1 - Before 1800 C. E.

This course discusses African history from human origins to the start of European expansion into tropical Africa in the 19th century. It examines precolonial African civilizations, such as the kingdoms and empires developed in the northeast, west, central and southern parts of Africa. It examines the early contact of Africans with the outside world, including through the spread of Islam and Christianity, and the migration of the major African ethnic groups. It explores the internal African slave trade; the political, economic and socio-cultural institutions; and the regional diversity of Africa at the eve of colonial rule.

HIST-227 Credits: 3

African History 2 - Since 1800 C. E.

This course explores the major political, economic and socio-cultural transformations taking place in Africa from the start of European territorial expansion in the early 19th century to the present. It examines the implementation and challenges of colonial rule, the decolonization process, the rise of African nationalism and the diverse conditions facing independent African countries. It explores the challenges of African governments at nation building, and the different strategies adopted in that effort.

HIST-228 Credits: 3

World History to 1500

This course examines global history from antiquity to 1500 C. E. It explores the first river-valley civilizations through the Bronze Age, to the development of writing, the depiction of the human form and the creation of new communities in the Middle East. It examines the spread of world religions and the building of huge empires in Europe, Asia, the Americas and Africa. The course stresses that history, with its different definitions and ways of studying the past, is not reserved for a particular group. It embodies written and material culture and activities carried out by people all over the world.

HIST-229 Credits: 3

World History Since 1500

This is a survey of the world's last five centuries, stressing its social diversity, interconnectedness, cross-cultural contact and geography in a way that enhances understanding about the way in which we live today.

HIST-231 Credits: 3

Latin American History

This course is subdivided into the following topics: precolonial civilizations, the colonial period, independence, the republican period and contemporary Latin America. Special emphasis is given to U.S.-Latin American relations and to the problems of development.

HIST-232 Credits: 3

History of Wisconsin

This course covers the history of Wisconsin, and of Milwaukee as a Wisconsin hub city. It traces the formative and developmental stages and patterns in Wisconsin's and Milwaukee's social, political and economic history, with special focus on the multiethnic and multicultural heritage, and the backdrop of Wisconsin's seasonal array of natural beauty and festivals.

HIST-235 Credits: 3

Introduction to the History of Southeast Asia

This course focuses on the region of Southeast Asia. It gives an introduction to the history of the region as a whole, from its early beginnings until World War II and its aftermath. It also provides introductory background to the study of each individual Southeast Asian nation.

HIST-236 Credits: 3

History of the Vietnam War Years

This course examines the American experience in the Vietnam War. It will deal with the roots of the conflict in French colonialism in Southeast Asia and the containment principles of U.S. foreign policy, tracing the course of the war through the Kennedy, Johnson and Nixon administrations. It also examines the domestic political response to the war, and literature produced by Vietnam veterans.

HIT-HEALTH INFORMATION TECHNOLOGY/MEDICAL RECORDS

HIT-101 Credits: 2

EHR: Introduction to Healthcare Information Technology

Introductory survey of how healthcare and public health are organized, and services are delivered in the United States. The course is divided into three parts. The first covers public policy, relevant organizations and their interrelationships, professional roles, legal and regulatory issues, privacy laws, jobs in healthcare settings, and professional and ethical issues encountered. The second part introduces students to healthcare and computer terminology used in healthcare settings. The third part provides a brief history of healthcare and healthcare technology, culminating in healthcare reform initiatives and the HITECH Act. The concepts of meaningful use are introduced. Prerequisite(s): Admission to the appropriate EHR certificate.

HIT-102 Credits: 3

EHR: Health MIS/Configuring EHRs

A theory and laboratory course that is specific to healthcare and public health applications, it will introduce health IT standards, health-related data structures, software applications, and enterprise architecture in healthcare and public health organizations. The laboratory

portion involves practical experience addressing approaches to assessing, selecting and configuring EHRs to meet the specific needs of customers and end-users. Prerequisite(s): Admission to the appropriate EHR certificate.

HIT-103 Credits: 2

EHR: Quality Improvement

This course introduces the learner to concepts of health IT and practice workflow redesign as instruments of quality improvement. Students address establishing a culture that supports increased quality and safety. Approaches to assessing patient safety issues, and implementing quality management and reports through electronic systems will be discussed. Prerequisite(s): HIT-101.

HIT-104 Credits: 2

EHR: Project Management

In this course, students apply project management tools and techniques to construct a project management plan. It also prepares students for leadership roles, principles of leadership and working with effective management teams. Emphasis is placed on the leadership modes and styles best suited to IT deployment. Prerequisite(s): Admission to the appropriate EHR certificate.

HIT-105 Credits: 3

EHR: Workflow Process Analysis Redesign

This course goes into depth on the fundamentals of health workflow process analysis and redesign as a necessary component of complete practice automation. The course includes topics of process validation and change management. Prerequisite(s): HIT-103.

HIT-107 Credits: 1

Introduction to Healthcare Informatics

Course is designed to give students a broad introduction to the field of healthcare informatics, including definitions and industry applications. The history of informatics will be explored, as well as the tools needed to support today's healthcare technology demands. Prerequisite(s): HIT-181 or HEALTH-107.

HIT-108 Credits: 2

Project Management and Team Communication

This course develops skills to plan and track complex projects, translating project design to an electronic format and accurately recording/modifying project schedules. Prerequisite(s): HIT-190.

HIT-109 Credits: 1

Healthcare Informatics Practicum

An off-campus internship that places the student within an assigned healthcare facility to complete a focused informatics needs assessment, and work with facility staff to provide a solution for at least one identified informatics need within the facility. Prerequisite(s): HIT-108.

HIT-130 Credits: 4

EHR: Overview of EHR Systems

This course starts with a theory component specific to healthcare and public health applications, introducing basic health IT standards, health-related data structures and software applications. A laboratory component of the course then allows students to work with a simulated electronic health records (EHR) system, playing the role of practitioners to learn a framework for how healthcare applications work together, to understand why standards are important, why there is a need for usability requirements, and how errors can occur. Prerequisite(s): Admitted to Health Information Technology program (10-530-101) and HIT-101.

HIT-131 Credits: 4

EHR: Configuring, Installing, Maintenance

This is an advanced course building upon the Overview of EHR Systems course, looking with more depth into how EHR systems are constructed and configured for implementation, including security standards, interfaces and integration of systems, application testing, deployment, troubleshooting problems and system maintenance. A secondary component of the lab then provides a practical experience for addressing how to design and build an electronic health record to meet specific needs of customers and end-users. Prerequisite(s): Admitted to Health Information Technology program (10-530-101) and HIT-101.

HIT-132 Credits: 2

EHR: Standards/Supporting

The final course in the certificates goes into more depth on the necessary standards for initial implementation of electronic health records for meeting patient care requirements, meaningful use, and public reporting of health data. Then a brief introduction is provided on how these standards and practice workflow redesign can be used as instruments of quality improvement. The final component looks at how multidisciplinary teams must work together to build and meet meaningful use requirements of EHR systems. Prerequisite(s): Admitted to Health Information Technology program (10-530-101) and HIT-131.

HIT-160 Credits: 4

Healthcare Informatics

Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business and health information software applications. Students will develop skills to assist in information systems design and implementation. Prerequisite(s): Admitted to the Health Information Technology (10-530-101) or the Medical Coding Specialist (31-530-2) program; and HEALTH-107, HIT-176, HIT-185, HIT-195.

HIT-161 Credits: 3

Health Quality Management

Explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment and improvement, required monitoring activities, risk management and patient safety, utilization management and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data. Prerequisite(s): HIT-177.

HIT-176 Credits: 2

Health Data Management

Introduces the use and structure of healthcare data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing. Prerequisite(s): Admitted to a Medical Coding program (30-530-2 or 31-530-2); HIT-181, HIT-182, HIT-197, HIT-199.

HIT-177 Credits: 2

Healthcare Statistics and Research

Explores the management of medical data for statistical purposes. Focuses on descriptive statistics including definitions, collection, calculation, compilation and display of numerical data. Vital statistics, registries and research are examined. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) program, and HIT-176.

HIT-178 Credits: 2

Healthcare Law and Ethics

Examines regulations for the content, use, confidentiality, disclosure and retention of health information. An overview of the legal system and ethical issues are addressed. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) program.

HIT-181 Credits: 1

Introduction to the Health Record

This course prepares students to illustrate the flow of health information in various healthcare delivery systems and within the health information department. It also prepares students to retrieve data from health records. Professional ethics, confidentiality and security of information are emphasized. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) program; NATSCI-177 or NATSCI-189 (minimum grade C), HEALTH-101 (minimum grade C).

HIT-182 Credits: 3

Human Disease for Health Professions

This course focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasis is placed on understanding the etiology (cause),

signs and symptoms, diagnostic tests and treatment (including pharmacologic) of each disease. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) programs; NATSCI-177 or NATSCI-189 (minimum grade C), HEALTH-101 (minimum grade C).

HIT-183 Credits: 3

ICD-9-CM Coding

This course prepares students to assign ICD-9-CM codes supported by medical documentation with entry-level proficiency. Students apply ICD-9-CM instructional notations, conventions, rules and official coding guidelines when assigning ICD-9-CM codes to case studies and actual medical record documentation. Prerequisite(s): Admitted to the Medical Coding program (30-530-2); NATSCI-189 and completed or currently enrolled in HIT-182.

HIT-184 Credits: 3

CPT Coding

This course prepares students to assign CPT codes, supported by medical documentation, with entry-level proficiency. Students apply CPT instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. Prerequisite(s): Admitted to a Medical Coding program (30-530-2 or 31-530-2); HIT-181, HIT-182, HIT-197, HIT-199.

HIT-185 Credits: 2

Healthcare Reimbursement

This course prepares students to compare and contrast healthcare payers, illustrate the reimbursement cycle and to comply with regulations related to fraud and abuse. Learners assign diagnosis related groups (DRGs), ambulatory payment classifications (APCs) and resource utilization groups (RUGs) with entry-level proficiency, using computerized encoding and grouping software. Prerequisite(s): Admitted to Medical Coding program (30-530-2 or 31-530-2); HIT-181, HIT-182, HIT-197, HIT-199.

HIT-190 Credits: 3

Healthcare Information Systems

Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business and health information software applications. Students will develop skills to assist in information systems design and implementation. Prerequisite(s): HIT-176.

HIT-194 Credits: 2

HIM Organizational Resources

Examines the principles of management to include planning, organizing, human resource management, directing and controlling as related to the health information department. Prerequisite(s): Completion of or currently enrolled in HIT-161.

HIT-195 Credits: 2

Applied Coding

This course prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with intermediate-level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize appropriate reimbursement. Prerequisite(s): Admitted to Medical Coding program (30-530-2 or 31-530-2).

HIT-196 Credits: 3

Professional Practice 1

Applies previously acquired skills and knowledge by means of clinical experiences in the technical procedures of health record systems and discussion of clinical situations. This is the first of a two-semester sequence of supervised clinical experiences in healthcare facilities. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) program; and completed HIT-176, HIT-181, HIT-184, HIT-185, HIT-195, HIT-197, HIT-199; and completion of or currently enrolled in HIT-177, HIT-178.

HIT-197 Credits: 3

ICD Diagnosis Coding

This course prepares students to assign ICD diagnosis codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. Prerequisite(s): Admitted to Health Information Technology (10-530-101) or Medical Coding Specialist (31-530-2) program; NATSCI-177 or NATSCI-189 (minimum grade of C), HEALTH-101 (minimum grade of C).

HIT-198 Credits: 3

Professional Practice 2

Applies previously acquired skills and knowledge and discussion of clinical situations. This course prepares students for the certification examination and pre-graduation activities. This is the second of a two-semester sequence of supervised technical and managerial clinical experiences in healthcare facilities. Prerequisite(s): HIT-178, HIT-196, and completion of or currently enrolled in HIT-177, HIT-184, HIT-197.

HIT-199 Credits: 2

ICD Procedure Coding

This course prepares students to assign ICD procedure codes supported by medical documentation with entry-level proficiency. Students apply instructional notations, conventions, rules and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. Prerequisite(s): Admitted to the Health Information Technology (10-530-101) or Medical Coding

Specialist (31-530-2) program; NATSCI-177 or NATSCI-189 (minimum grade of C), HEALTH-101 (minimum grade of C).

HORT–HORTICULTURE

HORT-111 Credits: 3

Introduction to Horticulture

Provides an overview of the horticulture profession; its role and importance throughout history, current trends and career opportunities will be covered. Particular attention is given to horticulture crops, plant classification, their use and the interrelationships between the environment, plant growth and plant development.

HORT-112 Credits: 3

Horticulture Soils

Students explore the properties of soils and apply that knowledge to horticultural uses as a growing medium and as an engineering base for landscaping.

HORT-113 Credits: 3

Ornamental Plant Health Care

The identification of and control of insects and diseases, with a focus on plant health care and maintenance, will be emphasized. An integrated pest management approach in diagnosing pest problems and the control of pests using biological, cultural, physical and chemical applications will be included. Calibrations, laws, regulations, safety and ecological impact are also covered. Training and testing for the Wisconsin State Certified Pesticide Applicator Exam, Category 3.0, Landscape, Turf and Interiorscape is part of this course. Students who pass the exam will receive state certification.

HORT-114 Credits: 3

Woody Ornamental Plants

Plant classification and the techniques of plant identification are explained. The student utilizes these techniques in identifying commonly used deciduous and evergreen trees and shrubs.

HORT-116 Credits: 3

Landscape Equipment

This course covers maintenance, adjustment and productive use of specialized rolling stock and tools used in landscaping. Students practice safe operation of an array of landscape equipment.

HORT-117 Credits: 3

Landscape Equipment II

Covers advanced operation and safety skills involved in using landscape construction equipment. Grading, drainage and sculpting, and materials handling are emphasized using specialized equipment attachments and implements. Skills learned contribute toward passing the Certified Landscape Technician test administered at MATC by the Professional Landcare Network (PLANET).

HORT-118 Credits: 3

Landscape Business Principles

Course outlines the processes involved in running a business that are unique to landscaping. This includes finding property, boundaries and determining restrictions on what can be done to land. Landscaping contracts and the process of expediting work on land are included. The landscape business is approached from the standpoint of financial management, human resource management and project management.

HORT-119 Credits: 3

Landscape Construction I

This course provides an overview of the installation of hardscape features of the landscape. Included are basic construction techniques for retaining walls, outdoor steps, paving (patios, walks and drives), decks and fences. Limitations in executing hardscape designs are discussed.

HORT-120 Credits: 3

Landscape Construction II

This course focuses on developing proficiency in landscape installation. Students practice skill development with specialized landscape construction equipment that enhances labor efficiency in completing projects.

HORT-121 Credits: 3

Irrigation, Lighting and Ponds

Course focuses on these landscape accessories, which augment both the greenscape and the rest of the hardscape. They are increasingly popular add-ons to commercial and residential projects, and are part of a national trend. Students learn about irrigation, low-voltage lighting and water features that contribute to more sophisticated, outdoor living areas.

HORT-122 Credits: 3

Landscape Design I

Provides the student with the initial experience needed to understand the fundamental processes used in creation of a landscape design. This includes contracting with a client, assessing fundamental client needs, site measurement, client analysis, environmental analysis, functional analysis, the use of geometric form and planting design principles.

HORT-123 Credits: 3

Landscape Horticulture - Design II

Students learn to draw landscape graphics and understand what makes them readable. They review and practice design processes, including planting design and its basic elements, and practice planting design developed in a class client-contact project. Prerequisite(s): HORT-122.

HORT-124 Credits: 2

Landscape Design 3

This course briefly reviews outdoor rooms and planting design. Actual situations with clients are used. Projects include study and design of vehicular circulation, steps and walls, a community project and a specialty project. Course emphasizes class collaboration and class presentations to clients. Students are encouraged to review each other's work. Color projects are also encouraged. Prerequisite(s): HORT-123.

HORT-125 Credits: 3

Landscape Maintenance Application

Students learn concepts in landscape management and health such as establishment, pruning, weed control, mulching, fertilization, winter protection and basic turf management.

HORT-126 Credits: 3

Landscape Estimating and Bidding

The numerical aspects of landscape installations and maintenance are studied, including estimation of labor and material costs. Linear, area and volume calculations of materials needed for landscape projects from landscape plans are thoroughly covered, as well as garden center figuring, landscape design calculations, nursery and greenhouse setup, and fertilizer materials and calibration.

HORT-127 Credits: 3

Arboriculture I

Students will learn concepts in landscape tree management and health such as establishment, pruning, bracing and cabling, problem treatments, fertilization, decay and risk, and rigging and removal. Rope and harness tree-climbing skills and equipment are covered. Knot tying; reduction and treatment of construction damage; tree inventory systems; and power equipment such as brush chippers, stump cutters, aerial lifts, root excavators and chainsaws also are studied. The current Safety Requirement Standards (ANSI Z133.1) and Standard Practices (ANSI A300) are stressed.

HORT-128 Credits: 3

Arboriculture II Climbing and Pruning

In an outdoor setting, this course provides practical application to principles presented in the previous arboriculture course. The students observe and perform skills in tree climbing and pruning, as well as tree repair, practical rigging and tree removal, as opportunities present themselves. Knowledge of safe tree-care operations and tree-pruning standards is stressed, and students gain skills in knot tying, aerial rescue and clear communication.

HORT-129 Credits: 3

Arboriculture III - Rigging and Removal

In an outdoor setting, students rig and remove trees using various techniques and equipment. Students become competent

in determining methods of tree removal and skilled in operation of chainsaws and selection of removal equipment. Safe work practices, clear communication and knots needed for removals are stressed.

HORT-130 Credits: 3

Garden Center Marketing

This course provides an overview of garden center marketing and how a garden center works.

HORT-132 Credits: 2

Communications and Marketing

The course discusses communication and marketing skills, techniques and strategies as they apply to the horticulture profession. Students will learn and practice interpersonal skills as they relate to customers, co-workers, employees and employers.

HORT-133 Credits: 3

Turf Management and Related Equipment

The description and identification of turf grasses used in the landscape industry are studied. Emphasis is on cultural requirements, pet problems, and equipment used in establishing and maintaining turf.

HORT-134 Credits: 3

Greenhouse Production - Fall Crops

This course provides an overview of greenhouse production of crops grown in fall and winter. Planning and growing of the crops are the main focus.

HORT-140 Credits: 3

CAD Landscape Design 1

This course provides the horticulture student with the skills and knowledge to draw landscape plans with a computer-aided design (CAD) program. The concepts of the program will be discussed and an understanding of the basic commands of AutoCAD and the site-planning module of LandCAD will be covered.

HORT-141 Credits: 3

CAD Landscape Design 2

Provides the horticulture student with the skills and knowledge to draw landscape plans with AutoCAD and Land F/X computer-aided design (CAD) programs. The concepts of Land F/X will be discussed and an understanding of the landscape design-related commands of Land F/X will be covered. Prerequisite(s): HORT-140.

HORT-142 Credits: 2

Introduction to Organic Vegetables/Culinary Herbs

Identification and cultural requirements of culinary herbs, and cool- and warm-season vegetables suitable for growing in Wisconsin are studied. Attention is given to bed layout and preparation, propagation, planting techniques, maintenance and harvesting. Special consideration is given to urban agriculture, including contained-space gardening containers, vertical cropping and rooftop gardens.

HORT-143 Credits: 2

Survey of Edible Landscaping

Identification, uses and growing requirements of fruit-bearing and edible plants for landscapes are studied. The culinary and ornamental values of common trees, shrubs, vines and herbaceous perennials and annuals are discussed. Prerequisite(s): HORT-142.

HORT-152 Credits: 3

Greenhouse Production - Spring

Students will grow spring greenhouse crops from propagation, to transplanting, to fertilization, to market. Cultural care for each crop will be done under greenhouse growing conditions. Schedules of crops and planning of greenhouse space will be covered.

HORT-159 Credits: 2

Survey of Herbaceous Plants

Commonly used annual and perennial herbaceous plants are studied, with an emphasis on identifying flower and foliage characteristics and their utilization in the landscape. Ground covers, vines and roses are included.

HORT-160 Credits: 2

Landscape Plants - Trees

The study of landscape trees is broadened to include evergreen and deciduous tree cultivars (hardiness zone five and colder) used in the landscape industry. Emphasis is on identification, cultural requirements and uses in various landscape settings. Prerequisite(s): HORT-114 or HORT-158.

HORT-161 Credits: 2

Landscape Plants - Shrubs

The study of landscape shrubs is broadened to include evergreen and deciduous shrub cultivars (hardiness zone five and colder) used in the landscape industry. Emphasis is on identification, cultural requirements and uses in various landscape settings. Prerequisite(s): HORT-114 or HORT-158.

HORT-162 Credits: 3

Advanced Study of Herbaceous Plants

This course expands on the study of herbaceous plants used in the landscape industry. Emphasis is on recognizing the attributes of new and less frequently used cultivars. Their requirements and their specific utilization in the landscape are stressed. Prerequisite(s): HORT-159.

HORT-163 Credits: 3

Native Plants - Fall

In this course, students identify the basic plant communities that are native to Wisconsin, especially to southeastern Wisconsin. Students become familiar with a selection of native plants that make each of these communities unique. Students also study how to cultivate these plants for use in ecologically based landscape design.

HORT-171 Credits: 2

Exterior Plant Pests

The animal, insect and disease pests of landscape plants are studied along with control methods specific to each. Emphasis is on correct diagnosis and the integrated pest-management controls used in an urban setting.

HORT-172 Credits: 2

Specifics of Land Maintenance

This course examines specific problems that arise in maintaining a landscaped area. These problems are related to the environment in general and to sites, soils, plant characteristics and hardscape features in the landscape.

HORT-173 Credits: 2

Tree Maintenance

Emphasis is on large tree maintenance including planting, pruning, removal, bracing and cabling, cavity work, fertilizing and water-related problems. Care and safety with ropes, saddles and chainsaws are stressed throughout the course.

HORT-175 Credits: 2

Landscape Design: Exterior

Residential design methodology is studied. Fundamentals are practiced with an emphasis on preparing landscape plans. Preparation of sections and elevations is included. Prerequisite(s): HORT-174.

HORT-177 Credits: 2

Landscape Design IV

This course provides students with additional hands-on assignments that will assist them in gaining greater expertise in landscape practices. Prerequisite(s): HORT-124.

HORT-180 Credits: 2

Landscape Construction: Patios, Steps, Walls

Basic construction of patios, retaining walls, steps and walls, as taught in the Landscape Construction: Fundamentals course, is practiced in a hands-on construction lab. Prerequisite(s): HORT-179.

HORT-193 Credits: 3

Native Plants - Spring

This course teaches landscaping with native plants through on-site observation of native plant communities. Students also learn basic preservation and restoration techniques for native plant communities. Landscape design principles will be observed and noted.

HORT-196 Credits: 3

LandCADD 1

In this course, students will be introduced to the basic tools of AutoCAD and LandCADD. Prior training in AutoCAD or familiarity with AutoCAD is strongly recommended. Prerequisite(s): HORT-175.

HORT-197 Credits: 3

LandCADD 2

This course is a continuation of the tools available on AutoCAD and LandCADD. Students will also transfer these tools

to other software programs, such as Site Designer 2 and LandDesignerPro. Prerequisite(s): HORT-196.

HORT-198 Credits: 2

Horticulture Internship

This course provides a broad variety of specific occupational experiences in the horticulture industry. Students work with faculty to develop an internship plan and identify, coordinate and evaluate learning experiences appropriate to the field of study and career focus of the student. Students will engage in hands-on practical work experience with employers identified in the internship plan.

HORT-199 Credits: 1

Horticulture Issues and Trends

A review and analysis of current horticulture issues and trends will be presented.

HOTEL/HOSPITALITY

HOTEL-100 Credits: 3

Introduction to Hotel/Hospitality Management

Students trace the development of the hotel/motel industry from early inns to modern high-rise and commercial hotels and highway motels. The organization of the hotel, including food and beverage operations, is discussed.

HOTEL-105 Credits: 2

Hospitality Marketing and Sales

Fundamental principles of marketing and sales serving the hospitality industry are developed through discussion and analysis. The functions and responsibilities of the sales department are presented, including advertising and sales techniques.

HOTEL-110 Credits: 3

Front Office Procedures and Management

Emphasizes front office techniques and management principles for the organization and operation of the lodging facility. The human and public relations responsibilities of the front office, as well as routine procedures, are an integral part of the course.

HOTEL-112 Credits: 3

Front Office Computerized Procedures

This course emphasizes computerized front office techniques. The student uses the latest software for hotel/hospitality management, from reservation systems to daily reports and management reports. Up-to-date housekeeping reports are generated.

HOTEL-120 Credits: 3

Building Operations and Security

Technical information necessary to establish effective maintenance and engineering functions is explored. An effective energy-management program is discussed. Common mechanical problems and the procedures to correct them are emphasized. Security management to protect guests is reviewed.

HOTEL-122 Credits: 3

Basic Hospitality Accounting

The basic structure of hospitality accounting is studied. The student will recognize the differences in hotel/hospitality accounting. Emphasis is placed on analysis and interpretation, as well as recording, classifying and summarizing phases.

HOTEL-124 Credits: 3

Managerial Accounting for the Hospitality Industry

Accounting data is an aid to managerial decision-making. Emphasis is placed on the use of internal cost and segment data. Managerial accounting is an integral tool in planning and controlling operations.

HOTEL-127 Credits: 3

Catering Weddings, Convention Sales and Contracts

This course provides the Hotel/Hospitality Management student with the overall concept of conventions, weddings and catering sales and their contracts, including coordination of functions, to achieve the ultimate result – a satisfied customer.

HOTEL-130 Credits: 3

Internship - Hotel/Meeting Management

The internship affords students the opportunity to experience employment while having the advantage of being supervised by a program instructor/coordinator. Students will complete their 16-week practical experience in an off-campus location.

HOTEL-133 Credits: 2

Supervision in the Hospitality Industry

Topics related to hospitality supervision and obligations to the owners, customers and employees are addressed, including line supervising, planning and problem-solving. Learning to make good decisions, and transitions from worker to supervisor to line management and top management are also covered in this course.

HOTEL-135 Credits: 2

Professional Presence in Hospitality

Course content focuses on approaching every business situation with a strong belief in your skills and a clear knowledge of how your presence will impress and affect others. Emphasis is on telephone etiquette, body language, color analysis, body typing and voice projection.

HOTEL-150 Credits: 2

Housekeeping Operations

This course investigates the functions of the housekeeping department and the role of its managers in operating the department, and introduces students to basic production skills. The housekeeping department is the training ground for room-division managers.

HRMGT–HUMAN RESOURCE MANAGEMENT

HRMGT-133 Credits: 3

Legal Issues and Employment Law

Students apply the skills and tools necessary for human resource professionals to effectively perform related functions in today's work environment. Each student will demonstrate the application of legal practices in both union and nonunion environments, analysis of the impact of U.S. employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring and firing process, dealing with harassment issues and privacy issues, and summarizing legal issues facing contemporary human resource professionals.

HRMGT-136 Credits: 3

Safety in the Workplace

Students learn to apply the skills and tools necessary to provide a safe and secure work environment. The student will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, risk analysis, issues of workplace violence, substance abuse, health hazards, first aid and CPR, fire and electrical safety, emergency preparedness and liaison with external agencies.

HRMGT-169 Credits: 3

Diversity and Change Management

Students apply the skills and tools necessary to implement and maintain a diverse work environment that values change. Student demonstrates the application of assessing the current extent of diversity in the workplace; analyzes the effect of perceptions, attitudes, biases and organization culture on diversity; learns to deal with barriers; change management strategy; and process reactions, measure progress and celebrate success.

HRMGT-170 Credits: 3

Employee and Labor Relations

The student gains a fundamental understanding of employee and labor relations that involve the process of analyzing, developing, implementing, administering and performing ongoing evaluation of the workplace relationship between the employer and employee. Course also covers the collective bargaining process.

HRMGT-192 Credits: 3

Strategic Management

Focuses on understanding the operation of the total business enterprise. This course will help the student understand the challenges and the environment in which the business operates, the direction the management tends to head, the strategic plans for getting the enterprise moving in the intended direction, and tasks of implementing the chosen strategy successfully. This course

aims to equip the student with core concepts, frameworks and techniques of strategic management that will prepare the student to understand what managers must do to make organizations achieve superior performance.

HRMGT-193 Credits: 3

Human Resource Management

Students apply the skills and tools necessary to effectively value and apply employees' abilities and needs to organization goals. Each student demonstrates the application of the various functions performed in contemporary human resources management, including impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies and procedures, training, performance management, employee counseling and development, and effective use of compensation and benefit strategies.

HRMGT-194 Credits: 3

Fundamentals of Compensation

Students apply the skills and tools necessary to develop and manage an effective compensation and benefit program for organizational employees. Each student demonstrates through application how to use compensation strategies to reinforce organizational goals; and to recruit and retain a motivated workforce; determine wage ranges tied to internal and external equity; develop incentive programs for different types of positions; establish a cost-effective benefit program; and comply with legal requirements.

HRMGT-196 Credits: 3

Recruiting and Selection

Students learn the importance of effective recruitment and selection processes as related to organizational effectiveness, sustainability and competitive advantage. Students gain an understanding of the role of human resource management in strategic planning, specifically as it relates or links to employment and workforce planning. Emphasis will be placed on the recruitment process, recruitment budget and critical steps in the selection process, selection assessments, interviewing, and compliance with state and federal employment laws, regulatory agencies and internal company policies.

HRMGT-197 Credits: 3

Employee Training and Development

Students will learn the fundamentals of training and development coordination. Emphasis is placed on terminology, the systems approach to training (needs assessments, design, implementation and evaluation), learning principles, training methodology and evaluation criteria, as well as various employee development initiatives. Students will be able to effectively report return on investment and value-added of training initiatives, and the initiatives' impact on overall strategic goal achievement. Prerequisite(s): HRMGT-196.

HRMGT-198 Credits: 3

Business Ethics

Students explore business ethics and corporate social responsibility in management practices and business activities. Students review and examine ethical responsibilities and relationships between organizational departments, divisions, business management and the public. Through analysis of case studies, practical application projects and discussion groups, students will determine and evaluate specific strategies and courses of action that affect the individual and the organization.

HSM–HEALTHCARE SERVICES MANAGEMENT/MEDICAL RECORDS

HSM-140 Credits: 3

Health Unit Coordinator Procedures 1

This is an introduction to the health unit coordinator (HUC) profession. The course introduces the student to the environment, communication, management of client information, order, process and transcription of physician's orders in healthcare. Prerequisite(s): Instructor consent required.

HSM-141 Credits: 3

Health Unit Coordinator Procedures 2

This is a more advanced course that introduces the student to transcription of laboratory and diagnostic orders, interdisciplinary treatment orders and specialty unit orders. Prerequisite(s): Instructor consent required.

HSM-142 Credits: 3

Health Unit Coordinator Clinical

Students apply the concepts and skills of the health unit coordinator in a clinical setting. Prerequisite(s): HSM-141.

HSM-143 Credits: 2

Healthcare Quality Management

Investigates various quality improvement methodology utilized within healthcare organizations to increase patient care outcomes, safety and satisfaction. Students will explore benchmarking, outcome measures such as CQI (continuous quality improvement), Deming's models, Six Sigma and Lean initiatives. Prerequisite(s): Instructor consent is required to register; HSM-144 and HSM-145.

HSM-144 Credits: 3

Introduction to the Business of Healthcare

Students explore the dynamic environment of the American healthcare system and how it relates to their role in the healthcare services management profession. Students will be introduced to the many stakeholders involved in the domestic healthcare delivery system including public/private insurance/reimbursement systems, regulations and

regulatory agencies, healthcare reform, managed care, as well as other related topics. An introduction to the usage of electronic health records will be presented. Prerequisite(s): Admitted to Healthcare Services Management program (10-530-3), completion of or currently enrolled in BADM-155, and instructor consent is required.

HSM-145 Credits: 3

Healthcare Law, Ethics and Professional Standards

Student will delve into aspects of healthcare that directly impact the healthcare services manager profession. Topics investigated include federal/local healthcare legislation, HIPAA, Patient Bill of Rights, EMTALA, Healthcare Reform Act, ethical behavior, professionalism, organizational culture, service-centered care delivery standards and other related topics. Prerequisite(s): Admitted to Healthcare Services Management program (10-530-3); instructor consent required.

HSM-146 Credits: 3

Leadership in Healthcare Organization

This course prepares students to investigate healthcare service leadership within various healthcare organization environments. Topics include leadership styles, policies and procedures, motivation, teamwork, strategy, organizational behavior, diversity and effective communication in the workplace. Prerequisite(s): Instructor consent required to register; HSM-144, HSM-145, and completion of or currently enrolled in HRMGT-193.

HUC–HEALTH UNIT COORDINATOR

HUC-301 Credits: 3

Health Unit Coordinator Procedures 1

This is an introduction to the HUC (health unit coordinator) profession. The course introduces the student to the environment, communication, management of client information, order, process and transcription of physician's orders in healthcare. Prerequisite(s): Admission to Health Unit Coordinator program (30-510-2) and instructor consent is required.

HUC-302 Credits: 3

Health Unit Coordinator Procedures 2

This is a more advanced course that introduces the student to transcription of laboratory and diagnostic orders, interdisciplinary treatment orders and specialty unit orders. Prerequisite(s): Admission to Health Unit Coordinator program (30-510-2) and instructor consent is required.

HUC-303 Credits: 3

Health Unit Coordinator Clinical

Students apply the concepts and skills of the health unit coordinator in a clinical setting. Prerequisite(s): Admission to Health Unit Coordinator program (30-510-2) and instructor consent is required.

HUMSVC–HUMAN SERVICES

HUMSVC-101 Credits: 3

Introduction to Human Services

The primary focus is to introduce the beginning student to human service concepts and to the broad range of occupations, professions and training requirements within this field. Field experiences and volunteer work will be required. Prerequisite(s): Admission to the Human Service Associate program (10-520-3); completion of or currently enrolled in HUMSVC-144.

HUMSVC-102 Credits: 3

Interviewing Skills

Students will practice and refine mastery of effective interviewing skills relevant to a wide range of human service practices. Prerequisite(s): HUMSVC-101, HUMSVC-144.

HUMSVC-103 Credits: 3

Group Work Skills

This is a practice-oriented course with a primary focus on developing skills, techniques and strategies utilized in a broad range of human service practice settings. A key component is to develop and demonstrate a workable knowledge base and awareness of the complexity of human behavior in groups. Prerequisite(s): HUMSVC-144, HUMSVC-101.

HUMSVC-104 Credits: 1

Field Preparation

Students make formal preparations for field experience assignment, as well as prepare to secure employment after graduation. Students develop a professional portfolio, practice interview skills and reinforce their overall employment/work skills. Prerequisite(s): HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-113, HUMSVC-144, and completion of or currently enrolled in HUMSVC-115.

HUMSVC-106 Credits: 4

Advanced Field Experience

This course must be taken concurrently with HUMSVC-107, Field Experience Seminar. Students are assigned to a community human service agency where they work 24 hours per week under the joint supervision of the agency and MATC field supervisors. Advanced Field Experience is designed to enhance the knowledge, skills and behaviors essential for human service workers in the professional setting. Students apply the material from their coursework to a real work situation. Prerequisite(s): HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-104, HUMSVC-113, HUMSVC-115, HUMSVC-144, and completion of or currently enrolled in HUMSVC-107.

HUMSVC-107 Credits: 2

Field Experience Seminar

This course must be taken concurrently with HUMSVC-106 Advanced Field Experience. This seminar provides the opportunity for students to discuss their field placement experiences and engage in consultation, networking and problem-solving. Students develop a strong

knowledge base of community human service agencies and resources. Prerequisite(s): HUMSVC-101, HUMSVC-102, HUMSVC-103, HUMSVC-104, HUMSVC-113, HUMSVC-115, HUMSVC-144, and completion of or currently enrolled in HUMSVC-106.

HUMSVC-113 Credits: 3

Documentation and Recordkeeping

Students will practice techniques involved with maintaining clinical records, documentation of referrals, staffing and consultations. Prerequisite(s): HUMSVC-101, HUMSVC-144.

HUMSVC-115 Credits: 3

Methods of Social Casework

The application of casework theories, models and techniques, along with the management and coordination of case records, is the major focus of this course. Exercises will be designed to reflect variations in casework intervention techniques, depending upon the goals of the practice setting. This course should be taken the semester before entering field placement. A competency exam is given in the final stages of the course. Prerequisite(s): HUMSVC-102, HUMSVC-103, HUMSVC-113, and completion of or currently enrolled in HUMSVC-104.

HUMSVC-118 Credits: 3

Introduction to Gerontology

This introductory course includes a demographic, cultural and ethnic profile of older adults. Major theories about aging are explored, as well as the interrelationships of biological, psychological and social aspects of aging. Prerequisite(s): Completion of or currently enrolled in HUMSVC-101, HUMSVC-144.

HUMSVC-121 Credits: 3

Family Issues and Interventions

This course focuses on issues related to families and family functioning relevant to the human services field. Special attention is paid to child maltreatment, domestic violence and addiction, with emphasis on the helping skills and services that are most effective. Prerequisite(s): Completion of or currently enrolled in HUMSVC-101 and HUMSVC-144.

HUMSVC-127 Credits: 3

Disabilities and the Helping Profession

This course emphasizes awareness of physical, psychological and developmental disabilities, and examines the unique needs and resources of people with disabilities. Emphasis is placed on developing effective strategies for working with clients who are disabled.

HUMSVC-142 Credits: 3

Multicultural Competence in the Human Service Professions

Students learn to build a foundation of culturally competent social work/human service practices that enable them to work effectively with diverse populations. Students develop skills through the acquisition of knowledge and awareness of various groups, cultures and lifestyles. Prerequisite(s): HUMSVC-101, HUMSVC-144.

HUMSVC-144 Credits: 3

Ethics in the Human Service Professions

This is a survey course for the Human Service Associate program student. Relationships between client and worker are emphasized, as well as the responsibilities of workers to engage in decision-making reflective of exemplary ethics codes. Prerequisite(s): Admission to the Human Service Associate program (10-520-3) and completion of or currently enrolled in HUMSVC-101.

HVAC1–AIR CONDITIONING, REFRIGERATION AND HEATING

HVAC1-300 Credits: 4

Basic Refrigeration/System Operations

Includes theory and principles of refrigeration and practical lab work. Students perform such skills as tube bending, flaring, soldering and brazing. The pressure, temperature relationship of refrigerants and pressure/enthalpy diagrams are studied to understand the basic refrigeration cycle. Refrigeration system leak checking, evacuation and charging are performed, along with refrigerant recovery in accordance with Environmental Protection Agency regulations.

HVAC1-301 Credits: 4

Introduction to Refrigerator Service/Applications

Students gain understanding of types of compressors, refrigerant expansion devices, condensers, evaporators, accessories and system applications. Refrigeration piping design and installation are discussed and practiced. Refrigerant and oil management, recovery, recycling, reclaiming and retrofit are practiced following proper EPA procedures. Service and troubleshooting of small hermetic, commercial and central air conditioning systems are covered. Prerequisite(s): HVAC1-300.

HVAC1-325 Credits: 3

Oil Furnace Service and Maintenance

This is a lecture/discussion and lab course that focuses on the basics of residential oil-fired forced air heating systems and oil as a commercial fuel. Students will learn such skills as knowing all the components high-pressure gun oil burners, learning the sequence of operations, understanding wire schematics, basic servicing skills, troubleshooting and combustion testing.

HVAC1-326 Credits: 3

Gas Furnace Servicing and Maintenance

This is a lecture/discussion and lab course that focuses on the basics of natural gas-fired forced air heating systems. The course covers basic atmospheric furnaces, induced draft and high-efficient condensing furnaces. Students will learn such skills as knowing the components, learning the sequence of operations, understanding wire schematics, basic servicing skills, troubleshooting and digital combustion testing. Also included is an overview of the use of sustainable solar energy in residential hydronic heating. Prerequisite(s): HVAC1-325.

HVAC1-332 Credits: 2

Math for Heating, Ventilation, Air Conditioning and Refrigeration Service Technicians

This math course provides a step-by-step approach to math problems that students will encounter as heating and cooling technicians. This course provides the basic computational and problem-solving skills required for many aspects of HVAC industry, for further study in trades' math and in intermediate-level algebra, geometry and trigonometry. Topics include: whole numbers, fractions, decimals, proportion, percent, graphs, statistics, measurement and geometry.

HVAC1-350 Credits: 2

Air Conditioning Principles

This basic course covers air distribution, heating, filtering and refrigeration as applied to air conditioning for residential, commercial and industrial applications. Calculating heat gains and the use of a psychrometric chart are included.

HVAC2–AIR CONDITIONING AND REFRIGERATION TECHNICIAN

HVAC2-109 Credits: 1

Introduction to the HVAC Industry

Students are introduced to the career opportunities and responsibilities in the air conditioning, heating and refrigeration industry. This course offers an orientation to the different duties, educational requirements and specialty areas within the HVAC industry.

HVAC2-110 Credits: 3

Air Conditioning Fundamentals

This course is a study of the fundamentals of air conditioning, including heating, cooling, humidification, human comfort and psychometrics. The laboratory will cover the use of measuring instruments during operation of boilers, pumps, furnaces and air handling units.

HVAC2-113 Credits: 3

Electrical Fundamentals

This course provides experience with electrical theories, circuits, devices and equipment that may be needed by those who work in the field of heating, air conditioning and refrigeration.

HVAC2-114 Credits: 4

Electrical Controls and Systems

The function and basic operating principles of the controls and circuit components are verified as students wire complete heating and cooling systems on panel boards in the lab. Servicing and troubleshooting procedures are also covered. Prerequisite(s): HVAC2-113.

HVAC2-115 Credits: 4

Refrigeration 1

Studies and calculations are made of the basic refrigeration cycle using the Mollier diagram. The operation of the major parts is discussed along with the use of service

tools such as gages, meters, vacuum pumps and refrigeration recovery. Prerequisite(s): HVAC2-110, HVAC2-113.

HVAC2-116 Credits: 4

Refrigeration 2

Studies and calculations are made of commercial and industrial refrigeration systems, along with the design and selection of equipment. Meters and service tools are used to diagnose and troubleshoot compressors, coolers, ice makers and freezers. Prerequisite(s): HVAC2-115.

HVAC2-118 Credits: 2

Wiring Diagram Interpretation for HVAC/R

See course description on INFOline at matc.edu. Prerequisite(s): HVAC2-114.

HVAC2-120 Credits: 4

Heating Systems 1

This lecture and laboratory course on forced-air systems covers the principles of gas and oil combustion units. Also included are large industrial complex designs and their practicability, with emphasis on variable volume, dual duct and multitype systems. Prerequisite(s): HVAC2-110, HVAC2-113.

HVAC2-121 Credits: 4

Heating Systems 2

This course includes instruction and laboratory work on hydronic hot water systems and steam applications. Students will be able to design systems, estimate load conditions, and size pumps and expansion tanks. Prerequisite(s): HVAC2-120.

HVAC2-125 Credits: 4

Control Application and Circuits

This course is designed to give students an understanding of the operation of various types of control devices, and how combinations of these devices can be applied and varied to secure the desired conditions in heating and cooling systems. Prerequisite(s): HVAC2-116, HVAC2-121.

HVAC2-126 Credits: 3

Air Conditioning Systems

A practical approach to design, equipment selection and energy conservation for an air conditioning system. Students visit a commercial building to observe the operation of a complete mechanical and HVAC system with computer operation and monitoring. Prerequisite(s): HVAC2-116, HVAC2-121.

HVAC2-132 Credits: 4

Architectural and Mechanical Fundamentals

Instruction is given in design, application, blueprint reading, symbols and drawings of mechanical systems. Outlays of various heating and cooling systems in relation to architectural buildings are used. Proper mechanical schematics, isometric piping and flow diagrams are discussed and drawn.

HVAC2-144 Credits: 3 **Servicing and Troubleshooting Refrigeration and Air Conditioning Systems**

Various methods of troubleshooting and servicing of refrigeration and air conditioning systems are studied together with the use of service tools and meters on commercial and industrial equipment. Prerequisite(s): HVAC2-116.

HVAC2-146 Credits: 2 **Digital Energy Management Systems**

Major types of automatic electrical control systems are described and compared. Programs, sensing and control points, signal transmission and processing, and other peripheral equipment that make up a complete building monitoring and control automation system are explored. Prerequisite(s): HVAC2-114.

HVAC2-148 Credits: 3 **Heat Pumps**

Aimed at the servicing and installation of heat pumps, the curriculum provides instruction on equipment and procedures needed to check the heating and cooling performance of a heat pump system. Calculating heat gains and the use of a psychometric chart are included in this course. Due to concerns for both comfort and energy conservation, there is a need for technicians who have current training in the installation, troubleshooting and repair of heat pump equipment. Prerequisite(s): HVAC1-300 or HVAC2-115.

HVAC2-150 Credits: 2 **Wiring Diagram Interpretation for HVAC/R**

This course is designed to enhance the student's ability to interpret modern wiring diagrams for HVAC/R. The curriculum provides instruction on the usage, design and interpretation of wiring diagrams such as the schematic, pictorial, installation and hybrid. Instruction will include the interpretation of actual equipment wiring diagrams as well as designing wiring diagrams. Prerequisite(s): HVAC2-114.

HYDPNU–HYDRAULICS PNEUMATICS/INDUSTRIAL

HYDPNU-101 Credits: 2 **Field Logic Controls**

See course description on INFOnline at matc.edu.

HYDPNU-310 Credits: 3 **Fluid Power Maintenance Shop Practices**

In this course, the student starts with an introduction to basic hand tools through descriptions of the tools and how they should be used. Students then identify components using manufacturers' catalogs and literature, and use service manuals and other manufacturer literature to modify component operation and order repair parts. Also,

students will overhaul/repair and test several different types of fluid power components. Prerequisite(s): HYDPNU-330.

HYDPNU-318 Credits: 3 **Hydraulic Servo Systems**

Items covered in this course include basic servo valves, basic input and feedback devices, electronic components and related items. Setup, adjustment, minor troubleshooting and repairing of systems/components are included. An introduction to basic proportional valves and related components are also covered in this course. Prerequisite(s): Completion of or currently enrolled in HYDPNU-330.

HYDPNU-330 Credits: 5 **Basic Hydraulics/Pneumatics**

Students will be introduced to the basic principles of hydraulics and pneumatics, along with some of the basic components used in each system. This includes principles of operation and more common problems. Some of the components covered are: pumps, compressors, directional control valves, actuators, fluid conditioning devices, pressure control valves, conductors and sealing devices.

HYDPNU-334 Credits: 2 **Fluid Power Schematic Reading**

This course covers the interpretation of fluid power schematics, and their symbols used by personnel in the fluid power industry and machine repair trades. This includes going from schematics to machines and vice-versa. Students will learn how to read and draw fluid power symbols and schematics. Troubleshooting with the use of schematics is also included.

HYDPNU-336 Credits: 4 **Fluid Power Circuits**

This course starts with basic hydraulic/pneumatic circuits and then goes into electrically/electronically operated circuits. Students learn how to do this with schematics. Basic troubleshooting is included. Prerequisite(s): Completion of or currently enrolled in HYDPNU-330.

HYDPNU-338 Credits: 4 **Mechanical Drives and Linkages**

Course covers basic mechanical drives and systems such as levers, pulleys and pulley systems, different types of belts and related parts, different types of chains and related parts, and different types of gears and related parts.

HYDPNU-340 Credits: 2 **Basic Electric Motors and Controls**

This course is specifically designed for the maintenance technician in dealing with the fundamental operation of motors and their controls. Topics will include basic electric motors, controls, circuits, measuring/testing instruments and basic troubleshooting. Prerequisite(s): ELECTY-326.

INDMNT–INDUSTRIAL EQUIPMENT MECHANIC

INDMNT-130 Credits: 1 **Drives and Linkages**

Course covers basic mechanical drives and systems such as levers, pulleys and pulley systems, different types of belts and related parts, different types of chains and related parts, and different types of gears and related parts.

INDMNT-132 Credits: 1 **Rigging and Lifting** See course description on INFOnline at matc.edu.

INDSGN–INTERIOR DESIGN

INDSGN-100 Credits: 3 **Introduction to Interior Design**

Covers the principles and elements of design (including line, form, balance, harmony, unity, rhythm, pattern, color). Pencil and ink sketching techniques will be explored to obtain a comfort level with loose drawings and quick sketches. Shade, shadow and color are introduced as hand-rendering techniques. Students are introduced to the concept and construction of the interior design presentation board. Students will learn to incorporate sustainable design concepts.

INDSGN-102 Credits: 3 **Basic Architectural Drawing**

Introduces students to manual drawing and basic computer-aided drawing for interior design. Students will learn how to properly use equipment and produce two-dimensional drawings.

INDSGN-104 Credits: 3 **Interior Elements of Building Construction**

This course presents basic components of building construction, including structural components and mechanical systems. Construction techniques will be converted and applied to the furniture design process, with emphasis on millwork and custom cabinetry design. Sustainable design and the health and welfare of occupants will be considered throughout.

INDSGN-106 Credits: 3 **Materials and Furniture Design**

This course explores appropriate material and furniture selections and specifications, including sustainable solutions. Exploration will include quality construction and design applications used in the furniture industry.

INDSGN-108 Credits: 3 **Residential Studio**

This course explores residential planning guidelines and safety codes. Student will learn the basic design process, from programming through design development. Emphasis is placed on appropriate furniture and material selections and specifications. Housing styles, both aesthetic and functional, will be addressed. Prerequisite(s): INDSGN-102.

INDSGN-110 Credits: 3

Advanced Architectural Drawing

This course builds on Basic Architectural Drawing coursework and further develops student skills in manual and computer-aided drawing techniques for interior design. Computer-aided three dimensional modeling will also be introduced and explored as a method of communicating design. Prerequisite(s): INDSGN-102.

INDSGN-112 Credits: 2

Textiles: Science, Application, Design

Covers fiber and yarn composition as it relates to woven goods. Students will learn appropriate material specification per application based on textile, fiber and yarn properties. Emphasis is placed on upholstery and applied use, as well as textile design, including exploration of warp, weave, pattern and color.

INDSGN-114 Credits: 3

Color and Light

Students will delve into the theory and practical application of color in interior environments. Students explore how color can affect the perception of space due to physical, emotional and biological connotations. Emphasis will be placed on proper lighting techniques for true color selection. Students learn to differentiate lamps and light sources, and create lighting and switching plans. Prerequisite(s): INDSGN-100.

INDSGN-116 Credits: 3

Kitchen and Bathroom Design

This course covers the methods of functional kitchen and bathroom planning, as well as the activities of a professional kitchen and bathroom designer. Emphasis is placed on design techniques that are current with industry standards. NKBA guidelines will be addressed, along with the presentation and planning techniques of industry-specific software. Prerequisite(s): INDSGN-102.

INDSGN-118 Credits: 3

Commercial Studio

Explores the contract design industry and exposes students to basic planning conditions, including planning guides and the ADA. Emphasis is placed on furniture and material selection and specification. Students will explore industry-specific software. Prerequisite(s): INDSGN-102.

INDSGN-120 Credits: 3

Professional Practice and Field Experience

This course covers basic professional business practices, including ethics and standards of the interior design profession. Students explore various types of design employment, and develop a working résumé and cover letter. In addition, the student will observe and participate in work experience under the supervision of faculty in the Interior Design program. Prerequisite(s): INDSGN-104, INDSGN-112.

INDSGN-122 Credits: 3

Styles of Furniture and Architecture

Students explore the evolution of interior design and the applied arts, including art and architecture. Students will relate political, socio-economic and demographic influences of each period, from antiquity to contemporary style.

INDSGN-123 Credits: 2

Applied Interior Design

This course focuses on the material, finishes and accessories specified in residential and commercial interiors. Suppliers, quality construction, selection process and ordering are included, as well as portfolio work involving selection of color materials/finishes to meet design needs.

INDSGN-124 Credits: 3

Advanced Commercial Studio

Course will continue to establish the important role of code compliance in commercial interiors. Emphasis is placed on key industry segments of facilities and healthcare design. Advanced design techniques and strategies, such as schedules, legends and ceiling plans will be covered, as well as an introduction to planning and specifying systems furniture. Students learn Revit, an industry-standard software, as it applies to the interior design process. Prerequisite(s): INDSGN-118.

INDSGN-126 Credits: 3

Trends in Interior Design

This course emphasizes current issues and topics of concern as it relates to the field of interior design. Students learn to identify and research design solutions and trends. Prerequisite(s): INDSGN-102.

INDSGN-128 Credits: 3

Designer/Client Relationships

This course focuses on presentation, selling and marketing strategies of interior design services and solutions. Emphasis is on cultivating and maintaining partnerships with clients and vendors. Students develop oral, written and graphic presentations for residential and commercial design scenarios.

INDSGN-130 Credits: 2

Portfolio Development and Application

This course will prepare students for entry-level job interviews. Emphasis is on appropriate use of industry terminology, and presentation skills and tools. Students organize a portfolio of best work and participate in a series of mock interviews. Prerequisite(s): INDSGN-110.

INDSGN-131 Credits: 2

The Furniture Industry

Quality construction features in upholstered, wood, plastic and metal furniture are given concentrated study. This course includes an introduction to and a study of major furniture manufacturers and their products.

INDSGN-146 Credits: 2

Hospitality Design

Students learn the specialized criteria considered in designing hotels, restaurants and resorts. An actual hospitality design problem will be solved. This area of design gives students the opportunity to design solutions for creative interiors. Prerequisite(s): INDSGN-126, INDSGN-150.

INDSGN-147 Credits: 2

Facility Planning and Procedures

This course focuses on the field of facility design. Students learn how an in-house or outsourced designer for business and industry plans space, solves problems and makes selections. Students are given the opportunity to develop procedures and layouts for a corporation of their choice. Prerequisite(s): INDSGN-150.

INDSGN-150 Credits: 2

Design Lab

This course exposes the student to practical design applications serving the MATC community. Students work on a variety of hands-on projects under the supervision of the instructor. The course emphasizes collaboration and problem-solving skills. Major emphasis is placed on the pre-planning and presentation phase of the design process. Implementation will be the focus of Design in the Community II. Prerequisite(s): INDSGN-102.

INDSGN-152 Credits: 3

Interior Design Visualization

This course gives students an opportunity to visualize their design concept for an interior in 3D. Actual modes of spaces are constructed from working drawings in order to increase the ability to visualize. Prerequisite(s): INDSGN-125, INDSGN-139.

INDSGN-156 Credits: 3

Computer Applications for Interior Design

This is a basic computer-aided drafting course that utilizes AutoCAD software. Interior design software with furniture libraries from major manufacturers is used to furnish plans. Students learn to draw and plot their designs, as well as generate related specifications. Prerequisite(s): INDSGN-125, INDSGN-139.

INDSGN-157 Credits: 2

Introductory Design Studio

This course gives students an opportunity to develop a problem-solving approach to design, develop sketches and improve their ability to visualize their solutions. It also exposes students to a wide range of interiors and architecture to broaden their experience.

INDSGN-160 Credits: 2

Interior Design Lab

This course exposes the student to practical design applications serving the MATC community. Students work on a variety of hands-on projects under the supervision of the instructor. The course emphasizes

collaboration and problem-solving skills. Major emphasis is placed on the pre-planning and presentation phase of the design process. Implementation will be the focus of Design in the Community II. Prerequisite(s): INDSGN-102.

INDSGN-163 Credits: 3

Field Experience in Interior Design

Under the supervision of teachers in the Interior Design program, the student is required to observe and participate in work experience. Discussions and conferences are held on skills and knowledge gained through the employment situation. Prerequisite(s): INDSGN-156.

INDSGN-180 Credits: 3

CAD Basics for Interior Design Professionals

This course provides professional interior designers with solid, practical know-how and step-by-step AutoCAD instruction. Emphasis will be on entry-level CAD skills, including basic drawing and modification commands.

INDSGN-182 Credits: 3

CAD Review for Interior Design Professionals

This course serves as a skills refresher for designers with previous CAD experience. The course includes a basic skills review, and provides students a forum to actively update their abilities and familiarity with the software. Emphasis is placed on advanced orthographic drawing skills. Students also are introduced to the electronic libraries and worksheet capabilities of 20-20 software products, including CAP and 20-20 Design.

INDSGN-190 Credits: 3

Designing Virtual Spaces

This course offers students the opportunity to develop the concept guiding the Virtual Milwaukee Project at Discovery World. Coursework includes research, interviews, surveys, programming, developing a solution and presentations. The goal is to produce a timeline and phases for the project, and to begin the implementation of Virtual Milwaukee.

INDVTS–INDIVIDUALIZED TECHNICAL STUDIES

INDVTS-102 Credits: 2

Career Assessment and Portfolio Development

This course is the preliminary component in the Individualized Technical Studies degree program. Students will develop a career portfolio that identifies their career goals and enables them to create a formal educational plan to attain their goals. The portfolio will document employment history, educational experiences, military and community service, and identify the skills and competencies students have acquired related to their career goals. The completed portfolio will be the basis for establishing an Individualized Technical Studies degree path.

INTP–INTERPRETER TECHNICIAN

INTP-126 Credits: 3

American Sign Language 1

The intent of this course is to provide the student with a basic understanding of American Sign Language – the form of sign language most commonly used by deaf adults when communicating with each other. Students enrolled in programs other than Interpreter Technician may be able to use this course (and INTP-127) to satisfy elective requirements.

INTP-127 Credits: 3

American Sign Language 2

This course is a continuation of American Sign Language 1 and is designed to further provide students with knowledge of fundamental survival signs. Students also acquire an awareness of the differences between deaf and hearing cultures. Prerequisite(s): INTP-126.

INTP-131 Credits: 5

Interpreting 1

This course provides students with intensive instruction in American Sign Language (ASL). Primary emphasis is placed on the acquisition of everyday vocabulary and the usage of basic ASL sentence structures. Language taught will focus on communicative purposes and everyday types of interaction. Prerequisite(s): INTP-127 and completion of or currently enrolled in INTP-133.

INTP-133 Credits: 3

American Sign Language Linguistics

Provides students with instruction on the phonology, morphology, syntax and semantics of American Sign Language (ASL). These linguistic features are analyzed and compared to English language structures. Students are expected to apply these grammatical features in their conversational use of ASL. Prerequisite(s): INTP-127.

INTP-135 Credits: 1

Building Conversational Fluency

This course is designed to maintain and expand the American Sign Language conversational fluency of continuing students who have completed the first year of the Interpreter Technician program. Extensive use is made of deaf speakers. All students are expected to sign for themselves at all times. Classroom discussions and activities are strictly conducted without the use of voice. Vocabulary is reviewed on an as-needed, topic-related basis, and grammatical and production errors are corrected within the parameters of conversation. Prerequisite(s): INTP-143.

INTP-138 Credits: 5

Interpreting 3

In this skill-building course, students work to develop their expressive and receptive interpreting skills. Materials

containing general vocabulary and everyday types of information will be the focus of interpreting exercises. Activities will focus on developing ASL/English interpretations with increasingly difficult levels of technical complexity and speed. Prerequisite(s): INTP-143, INTP-145, INTP-147.

INTP-139 Credits: 3

Orientation to Deafness

This course acquaints students with the types and causes of hearing impairment, the anatomy and physiology of the hearing mechanism and the principles of audiology. The acquisition of language in both deaf and hearing persons is compared and contrasted. Students are also given an orientation to the deaf community.

INTP-143 Credits: 5

Interpreting 2

This course continues to provide students with intensive instruction in American Sign Language (ASL). Conversational patterns of ASL, usage of increasingly complex grammatical structures and continued expansion of vocabulary are stressed. The development of receptive ASL skills is a major area of focus. Prerequisite(s): INTP-131, INTP-133.

INTP-144 Credits: 3

Interpreting 4

This course continues to build the student's knowledge of the interpreting process. Students further develop their interpreting skills in both expressive and receptive modes. Materials containing the types of information encountered during freelance interpreting are the focus of interpreting exercises. Extensive use is made of videotaped materials during independent lab work. Prerequisite(s): INTP-138.

INTP-145 Credits: 2

The Interpreting Process

This course teaches students how to analyze texts at the lexical, phrasal, sentential and textural levels for the purposes of interpretation. Conceptualization, concept-mapping, paraphrasing and consecutive interpreting are some techniques explored to enhance the student's ability to render equivalent messages from ASL to English, or from English to ASL. Prerequisite(s): INTP-131, INTP-133.

INTP-147 Credits: 3

Interpreting Ethics

Students study the history of the interpreting profession, the models of the interpreting process and the RID Code of Ethics. Emphasis is placed on interpretation of the code of ethics, ethical behavior as an interpreter and learning to make ethical decisions in the workplace. Students apply knowledge of the RID Code of Ethics during extensive role plays and group interactions. Prerequisite(s): INTP-131, INTP-133.

INTP-149

Credits: 3

Social Aspects of Deafness

This course furthers students' understanding of the ramifications of deafness by studying the impact of deafness on the individual, the family, education and employment. Historical changes and relevant legislative issues are discussed. A variety of deaf/hearing relationships are explored and the needs of special populations are presented. Prerequisite(s): INTP-139.

INTP-150

Credits: 1

Oral Interpreting

This course is designed to familiarize interpreting students and working interpreters with the specialized needs of hearing-impaired children and adults who choose to communicate by primarily relying on oral methods, and to prepare students to interpret for this population. Topics covered include principles of speech reading, an introduction to the oral interpreting process and specific techniques of oral interpreting. Speakers, videotapes, audiotapes and scripts are utilized during class practice sessions. Lab work is required, as is some outside hands-on work. Prerequisite(s): INTP-149.

INTP-151

Credits: 3

Educational Interpreting: Theory and Function

This course explores the role an interpreter has in educational settings. Theories related to the historical philosophies of deaf education and the ramifications for deaf students are discussed. Sign language systems used in school settings are analyzed and receptive/expressive interpreting activities focus on school-based texts. Tutoring skills, note-taking skills and other duties related to the educational setting are covered. Class is taught without voice. Prerequisite(s): INTP-143, INTP-147, INTP-149 (minimum grade of C).

INTP-153

Credits: 3

Occupational Experience

Students are assigned work with a human service provider who works extensively with deaf clients and/or deaf employees. The particular interests of students are matched with human service providers with similar interests (i.e., medical, mental health and general freelance work). Students then freelance interpret on a full-time basis for an eight-week period. Prerequisite(s): INTP-144, INTP-151.

INTP-161

Credits: 3

Employment Preparation for Interpreters

Topics covered in this class will include writing business letters, résumé development, basic business management (including tax ramifications), job interviewing skills and practice, creation of a career growth plan and professional portfolio preparation. Students will present their portfolios and complete mock interviews at an employer reception held at the end of May. Prerequisite(s): INTP-138.

INTSUS—INTERDISCIPLINARY SUSTAINABILITY

INTSUS-136

Credits: 3

Sustainability

Student will analyze the interconnections between social, economic and environmental systems. Strong emphasis is placed on reducing costs by minimizing resource use within and outside the organization. Various methods are illustrated to reduce waste and fossil fuel consumption, evaluate options to current waste disposal practices, and investigate alternative energy options.

IT—GENERAL IT

IT-107

Credits: 3

Social Networking and Business

This course is an introduction to social networking, communication and collaboration tools utilized in a business environment. Students will learn to setup, use and support these tools. Emphasis will be placed on proper business communication and development of a personal résumé that supports work within the information technology field.

ITDEV—IT PROGRAMMING/ DEVELOPMENT

ITDEV-110

Credits: 3

Introduction to Object-Oriented Programming With C#

This course focuses on the object-oriented paradigm. Students use test-driven development to create object-oriented classes. Students will be introduced to programming fundamentals such as flow control, decisions, variables and simple data structures (arrays). Emphasis placed on class design, implementation and problem-solving.

ITDEV-115

Credits: 3

Intermediate Object-Oriented Programming

This course focuses on intermediate object-oriented concepts, such as encapsulation, data hiding, inheritance and polymorphism. Students are introduced to file I/O, data abstraction, pointers and database access. Emphasis is on class design, implementation and problem-solving using databases. MATC strongly recommends that students complete ITDEV-110, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-110.

ITDEV-117

Credits: 3

Logic and Problem-Solving

This course presents a formal approach to logical thinking and problem-solving using mathematical structures. For students to think logically and solve problems, they need to think abstractly. This means to use logically valid forms of argument, both

direct and indirect, to derive new results from those already known to be true.

Discrete mathematical structures are the abstract structures that derive, categorize and reveal the underlying relationship among discrete mathematical objects such as set theory, logic, graph theory and finite-state automate. This course teaches these discrete mathematical structures and shows how they relate to the areas of data structures and algorithms in computer science. MATC strongly recommends that students complete ITDEV-110, or have the equivalent skills, prior to enrollment in this course.

ITDEV-121

Credits: 3

Advanced Programming With C++

Advanced programming topics in C++ will be covered, emphasizing object-oriented programming and design techniques. Topics include objects and classes, inheritance and composition, streams and files, arrays, strings, pointers, containers, virtual functions, multifile projects, the standard template library and error handling. MATC strongly recommends that students complete ITDEV-120, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-120.

ITDEV-125

Credits: 1

Secure Coding for Developers

In this course, the principles of secure coding will be covered. In particular, after addressing the major issues with coding such as hijacking attacks, buffer overflow, code injection, SQL injection, etc., the preventive and counter-hack methods such as input validation, sandboxing, controlling hijacking attacks, etc., will be discussed. Students also learn about different tools for secure coding. Prerequisite(s): Familiarity with a high-level language such as C, C++, C#, VB.Net, Java, or a scripting language such as JavaScript, Python or PHP.

ITDEV-126

Credits: 1

Introduction to Database Management

Students use Microsoft Access and SQL server to create and maintain databases through the use of SQL and other GUI based tools. Integration with Office and cloud-based collaborative tools will also be stressed.

ITDEV-130

Credits: 3

Visual Basic Programming

This course introduces students to object-oriented/event-driven programming in the .Net environment. Students develop interactive, event-driven applications. Toolbar and toolbox are used to create buttons, scroll bars, menus and other objects. Programming procedures and error-handling are incorporated in developing solutions.

ITDEV-132

Credits: 3

Windows Scripting

This course is designed to teach students how to write scripts for developing customized tools in Windows-based computers.

Microsoft's main scripting technologies are introduced and covered. The primary environments will be Microsoft Visual Basic Scripting Edition (VBScript), Windows Script Host (WSH), Active Directory Service Interfaces (ADSI), the Script Runtime Library and Windows Management Instrumentation (WMI). MATC strongly recommends that students complete a programming or scripting course, or have the equivalent skills, prior to enrollment in this course.

ITDEV-140 Credits: 3

Programming With Java

This course introduces object-oriented programming with Java and the Java Development Toolkit (jdk). The focus is on the design and development of well-tested class objects using Test Driven Development (TDD) and JUnit or a similar paradigm. The tested objects become components of general-purpose Java applications. MATC strongly recommends that students complete ITDEV-130, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-110.

ITDEV-142 Credits: 3

Linux Shell Scripts

Students in this course learn how to write shell scripts in Unix and Linux environments. Bash is the main shell that is used. In addition, other shells such as Bourne and C shell will be introduced and compared with each other. The focus is primarily on developing script applications. In addition, topics on system and network administration scripting will be covered. MATC strongly recommends that students complete a programming or scripting course, or have the equivalent skills, prior to enrollment in this course.

ITDEV-150 Credits: 3

Database Management With SQL

This is a fundamental course in database concepts, design and implementation involving the relational database model. Students create, query and update relational databases using Structured Query Language (SQL) and the Oracle database management system.

ITDEV-153 Credits: 2

SQL Server Administration

This course covers Microsoft SQL Server database administration. Students learn to install SQL Server onto a Windows NT based server. Using the native command line as well as the administrative console, students then learn to establish databases, build and load tables, create backup and restore procedures, establish security roles and assign users to them.

ITDEV-154 Credits: 3

Data Structures and Programming

This course focuses on advanced data structures used in programming. Students will solve problems by using advanced data structures such as trees, queues, stacks, linked lists and heaps. MATC strongly

recommends that students complete ITDEV-115, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-121, ITDEV-140 or ITDEV-185.

ITDEV-160 Credits: 3

Web Programming With Scripts (JavaScript)

This course teaches how to build websites that interact with the user by means of client-side scripts. It explores HTML techniques such as tables, frames and forms, programming fundamentals in JavaScript, as well as web application development with objects, pop-up windows and cookies, for making interactive web pages. MATC strongly recommends that students complete ITDEV-130, or have the equivalent skills, prior to enrollment in this course.

ITDEV-161 Credits: 3

Web Programming 1

This course covers advanced techniques in web development including XML, XHTML, ASP, ASP.net, CGI/Perl and PHP. Web server management using Frontpage/ Frontpage server extension and web content management tools are also covered. In addition, database access using PHP or ASP is discussed. Prerequisite(s): ITDEV-160.

ITDEV-162 Credits: 3

Client/Server and eCommerce Implementation

Students will investigate the theory and concepts of client/server implementations with advanced database concepts and practices, including the use of both of these technologies in the development of electronic commerce sites. MATC strongly recommends that students complete ITDEV-150 and ITDEV-177, or have the equivalent skills, prior to enrollment in this course.

ITDEV-163 Credits: 1

JavaScript - Part 1

Introduction to client-side scripting in web applications. Hands-on lab work includes programming examples. Students learn to program business and casual applications using client-side scripts. No programming experience is required to take this course.

ITDEV-164 Credits: 3

Web Programming 2

See the course description on INFOnline at matc.edu. Prerequisite(s): ITDEV-161.

ITDEV-165 Credits: 1

JavaScript - Part 2

This course covers intermediate JavaScript coding techniques such as arrays, complex formulas, string manipulation and form interaction. The course focuses on the design and code writing of interactive JavaScript programs. The student will develop intermediate problem-solving skills, structured coding style and logical thinking. MATC strongly recommends that students complete ITDEV-163, or have the equivalent skills, prior to enrollment in this course.

ITDEV-177 Credits: 3

Systems Analysis and Design

Business computer system concepts are presented. The role of the systems analyst is discussed. Traditional (life-cycle) systems development methodologies utilized by project teams, and system trends of today are described. MATC strongly recommends that students complete or enroll in ITDEV-130 and ITDEV-150, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-150.

ITDEV-181 Credits: 3

Mobile Application Development

Students will learn how to create applications for mobile devices expanding upon concepts presented in ITDEV-140 Programming With Java. Topics include XML, widgets, lists, menus, file and database access, and communicating with the internet. Prerequisite(s): ITDEV-140.

ITDEV-184 Credits: 3

iPhone and iOS Mobile Application Development

Students learn the basics of the iPhone SDK including user interface design, multiview applications, table views, navigation controllers, data persistence, drawing, taps and touches, using libraries and localization. Students develop several basic iPhone applications that provide the foundations of developing more advanced applications. Students learn Objective-C programming and writing applications for Mac OS interfaces.

ITDEV-185 Credits: 3

Advanced OO Programming

This course continues to focus on object-oriented programming languages and tools used in computer simulations and games. Emphasis is placed on bringing together all CSG components (audio, graphics and code) into a completed computer simulation. MATC strongly recommends that students complete ITDEV-180, or have the equivalent skills, prior to enrollment in this course. Prerequisite(s): ITDEV-115.

ITDEV-186 Credits: 3

Mobile Web/Responsive Design

See course description on INFOnline at matc.edu.

ITDEV-198 Credits: 1

Internship

This is a cooperative training program involving actual work experience. Students obtain a position at an approved work station and work under the supervision of a teacher-coordinator.

ITDEV-199**Credits: 2****Integrated Project**

This is a capstone project that reflects the student's culminating experience in IT. In this course, students integrate their knowledge and skills in IT, reflect upon the work they have produced throughout their program, put their thoughts about their work into writing, demonstrate core ability skills, display overall comprehension of their discipline, and evaluate their learning based on the program's specific learning outcomes. MATC strongly recommends that students complete or enroll in ITSUP-198, or have the equivalent skills, prior to enrollment in this course.

ITNET–IT NETWORKING**ITNET-101****Credits: 3****Network Communications (Network+)**

Provides an introduction to networking technologies and good background material for students interested in preparing for CompTIA's broad-based, vendor-independent networking certification exam, Network+. This course covers a wide range of material about networking such as LAN components, OSI model and standards organizations, transmission media, topologies, protocols (such as TCP/IP), interconnecting devices, wide area networks and security. Through some hands-on exercises, demonstration and discussion, students will develop an understanding of what is involved in basic network design, network management, security and troubleshooting.

ITNET-104**Credits: 1****Windows OS Fundamentals**

Through hands-on lab activities, students will find this course helpful in configuring the Windows client operating system. This course covers installing and upgrading Windows client systems; understanding OS configurations and maintenance; and managing files/folders, devices, storage, printers and applications. This class provides preparation for the first section of Microsoft's MTA 98-349 and MCTS 70-680 exams.

ITNET-105**Credits: 1****Remote Management - Windows Client**

Students will set up various network configurations on the Windows client through hands-on lab activities. This includes configuring shared resources, advanced file and folder management, remote desktop, remote assistance, virtual private networks and the basics in enterprise computing. This class provides preparation for the second section of Microsoft's MTA 98-349 and MCTS 70-680 exams. It is recommended that students enrolling in this class have either completed ITNET-104 Windows OS Fundamentals, or they have a solid background in the Windows client operating system.

ITNET-110**Credits: 3****Managing Windows Desktop Client Operating System**

This course provides preparation for the Microsoft Certified Technology Specialist (TS) exam 70-680: Windows 7 Configuring. Students are introduced to the Microsoft Windows 7 system through lectures, demonstrations, discussions and hands-on lab exercises. Topics include installing, configuring, securing, troubleshooting and networking Windows 7.

ITNET-111**Credits: 3****Microsoft Server Administration 2**

Provides preparation for Microsoft Technology Specialist (TS) exam, 70-642: Windows Server 2012 Network Infrastructure Configuring. Topics include the configuration and troubleshooting of IP addressing, name resolution, network access, file and print services, and managing network infrastructure. Students are introduced to Microsoft Windows server through lectures, demonstrations, discussions and hands-on labs. This course advances the content presented in ITNET-110 and ITNET-112. MATC strongly recommends that students complete ITNET-112, or have the equivalent skills, prior to enrollment in this course.

ITNET-112**Credits: 3****Microsoft Server Administration 1**

This course provides preparation for the Microsoft Technology Specialist (TS) exam, 70-640: Windows Server 2012 Active Directory, Configuring. Topics include the configuration and troubleshooting of Active Directory DNS, server roles, objects and environment. This course advances the content presented in ITNET-110. MATC strongly recommends that students complete ITNET-110, or have the equivalent skills, prior to enrollment in this course.

ITNET-116**Credits: 1****Introduction to Network Specialist**

This class prepares students to successfully complete the IT Network Specialist – Accelerated program. It includes an overview of the expectations of the program and an introduction to the technologies utilized such as virtual PC and server, Camtasia screencasting and Blackboard. Setup and implementation of the communication tools used in the program will also be covered to help facilitate communication between students and faculty.

ITNET-131**Credits: 3****Introduction to Networks (Cisco 1)**

This is the first of four classes designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. Instruction includes networking, networking

terminology and protocols, network standards, LANS, WANS, OSI models, cabling, IP addressing and network standards. Students who complete all four courses will be prepared to take the Cisco Certified Networking Associate (CCNA) exam and the CompTIA Network+ exam at MATC's VUE test center.

ITNET-132**Credits: 3****Routing/Switching Essentials (Cisco 2)**

This is the second of four classes designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. Instruction includes ethernet, TCP/IP, RIP, IGRP and the Cisco IOS. Emphasis is placed on router configuration and is accomplished through hands-on labs using Cisco 2600 and 2800 routers. Prerequisite(s): ITNET-131.

ITNET-133**Credits: 3****Scaling Networks (Cisco 3)**

This is the third of four courses designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. A task analysis was used in the development of the content standards. The focus of this course continues with objectives from the CCNA exam. Subjects include VLSM, EIGRP, OSPF, ethernet switching, VLANs and rapid spanning tree protocol (STP). Prerequisite(s): ITNET-132.

ITNET-134**Credits: 3****Connecting Networks (Cisco 4)**

This is the fourth and final in a series of classes designed to provide students with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment and/or further education and training in the computer networking field. The focus of this course continues with objectives from the CCNA exam. Subjects include advanced IP addressing, Network Address Translation (NAT), ACLs, frame relay, Dial-on-Demand Routing (DDR), PPP and WAN concepts. Additional time will be spent preparing for the CCNA exam. Practice exams and study guides will be available. Prerequisite(s): ITNET-133.

ITNET-139**Credits: 3****Network Routing and Switching**

Students are introduced to the basics of router and switch technology and configuration. Topics include device purpose, hardware architecture, commonly used technologies, protocols, basic command syntax, and common security concerns and attack vectors.

ITNET-157 Credits: 3**Emerging Network Technologies**

This hands-on training course explores installation, configuration and management of VMware vSphere, which consists of VMware ESXi/ESX and VMware vCenter Server. Students are introduced to virtualization and storage management concepts using VMware server virtualization products. Completing this course is required to sit for the VMware Certified Professional (VCP) examination. Prerequisite(s): Completion of or currently enrolled in ITNET-111 and ITNET-134.

ITNET-158 Credits: 3**Storage Area Network (SAN)**

This course introduces students to an open storage curriculum that is focused on storage principles rather than on products. The objective is to provide a comprehensive introduction to storage technology, enabling participants to make more informed decisions about information management and storage regardless of storage platform.

ITNET-159 Credits: 3**Cloud Infrastructure Services**

This is an open course focused on virtualization and the technology concepts and principles required to build a cloud infrastructure. This vendor-neutral class is applicable to all IT professionals whose responsibilities are expanding across all technology domains including servers, storage, networking and applications.

ITNET-161 Credits: 2**Linux Overview**

This course introduces the basics of Linux operating systems. Students learn how to install, configure and use Linux. The main emphasis is on the Linux shell commands and simple shell scripts.

ITNET-162 Credits: 1**Networking Basics**

In this introductory class, students will learn about various networking components, transmission basics/media and IP configuration fundamentals. Through hands-on activities, students will set up small networks and perform basic troubleshooting tasks.

ITNET-163 Credits: 1**TCP/IP Including IPv6**

This course covers the OSI and the TCP/IP reference modules, the TCP/IP protocol suite, including IPv4 and IPv6 versions of various protocol elements, including addressing sub-netting DNS, DHCP, ARP, FTP among others. Binary and hexadecimal systems are also covered.

ITNET-181 Credits: 3**Web Systems Management**

Students focus on the management of web server hardware and software. Server/network monitoring software is implemented to evaluate the system's performance

regarding ecommerce transaction volume and website traffic. When is web traffic and transaction volume the greatest? What is the impact on the web server? Can the system be scaled up easily with the increase in web traffic? These are all examples of typical questions that need answers. Computer security is a major unit of discussion in the course, with such topics as authentication, access control, secrecy, data integrity, encryption and auditing as a part of the unit. MATC strongly recommends that students complete ITNET-102, or have the equivalent skills, prior to enrollment in this course.

ITNET-198 Credits: 2**Network Specialist Internship**

Students enrolled in this course complete an internship involving actual work experience or a networking capstone project. The internship requires students to obtain an instructor-approved IT position and work under the supervision of a manager/coordinator. The networking capstone project requires students to integrate their knowledge and skills in IT; reflect upon the work they have produced throughout their program; put their thoughts about their work into writing; demonstrate core ability skills and display overall comprehension of their program. MATC strongly recommends that students complete or enroll in ITNET-134, or have the equivalent skills, prior to enrollment in this course.

ITNET-199 Credits: 1**Integrated Project - Network Specialist**

This is a capstone project that reflects the student's culminating experience in their program. In this course, students integrate their knowledge and skills in IT, reflect upon the work they have produced throughout their program, put their thoughts about their work into writing, demonstrate core ability skills through the implementation, demonstration and documentation of the capstone project; and display overall comprehension of their program. MATC strongly recommends that students complete or enroll in ITNET-198, or have the equivalent skills, prior to enrolling in this course.

ITSEC–IT SECURITY**ITSEC-106 Credits: 1****Securing Windows Client**

Through hands-on activities, students will cover how to enhance security protection on Windows clients. This includes creating security policies and templates, auditing, authentication, software restrictions, encryption and best practices on hardening the Windows client operating system. This class provides good background material for the security content of Microsoft's client certification exam. It is recommended that students enrolling in this class have either completed ITNET-104 Windows OS Fundamentals or have a working knowledge of the Windows client operating system.

ITSEC-114 Credits: 3**Information Security Principles**

This course gives students a broad knowledge of information security while addressing the five phases of security: inspection, protection, detection, reaction and reflection. Students learn to analyze the most critical risks and threats, define an information security strategy and architecture, and plan for and respond to intruders. The 10 domains of the CISSP certification and Windows workstation security are covered. Students in online sections of this course have access to a virtual server to complete the required lab work.

ITSEC-117 Credits: 1**Security Awareness in the Digital Age**

Students will gain practical knowledge about the current dangers and potential problems using the internet, and information on protecting mobile devices and wireless local area networks. Through hands-on labs and projects, physical, mobile/wireless, workplace and personal security will be covered. This class also provides good background material for the security content in the current CompTIA A+ exam.

ITSEC-120 Credits: 3**Security Policies and Procedures**

Students learn how to develop a security vision statement; learn effective but simple written security policies and procedures to protect information, people and property; control ecommerce information systems; and comply with laws and regulations. To do so, students will evaluate information and systems, assign ownership and responsibilities, and develop an emergency response plan. MATC strongly recommends that students complete ITSEC-114, or have the equivalent skills, prior to enrollment in this course.

ITSEC-122 Credits: 3**Web/Application Security**

This course is designed to educate students about the security issues of the web, web browser and web services. In particular, students will learn about the client as well as server-side security measures. At course completion, students will be able to define, design and implement a secure website, as well as establish an end-to-end secure web link between a client and server. Topics such as SSL, open SSL and CGI security are covered. MATC strongly recommends that students complete ITSEC-116, or have the equivalent skills, prior to their enrollment in this course.

ITSEC-124 Credits: 3**Network Security (Security+)**

Students focus on the fundamentals and implementation of network security including secure access methods and vulnerabilities in network protocols, operating systems and network applications. Students use techniques and tools for developing secure infrastructure. MATC strongly recommends that students complete ITNET-101, or have the equivalent skills, prior to enrollment in this course.

ITSEC-126**Credits: 3****Computer Forensics**

This course familiarizes the student with methods of properly conducting a computer forensics investigation, beginning with a discussion of ethics. The goal is to conduct a structured investigation to determine exactly what happened and who was responsible, and to perform the investigation in such a way that the results are useful in a criminal proceeding. Students will practice how to collect and analyze the digital evidence left behind at a crime scene. This course maps to the objectives of the International Association of Computer Investigative Specialists (IACIS) certification. MATC strongly recommends that students complete ITSUP-102, or have the equivalent skills, prior to enrollment in this course.

ITSEC-130**Credits: 3****Windows Security 1**

This course covers concepts and administration of a Windows network that are essential to making a Windows network secure. Emphasis will be on hands-on labs that prepare students for the advanced security concepts covered in the second class, ITSEC-135. MATC strongly recommends that students complete ITSEC-116 or ITNET-101, or have the equivalent skills, prior to enrollment in this course.

ITSEC-136**Credits: 3****Unix/Linux Administration and Security**

Unix/Linux Server hardening methods and tools are covered in this course. In addition, the security tools and application inside Unix/Linux are taught. Particularly, students will learn how to protect password files, monitor log files, and use port scanners, network scanners, trace-route and ping. Additional topics include secure remote connections such as SSH. MATC strongly recommends students complete ITSEC-124 and ITNET-161, or have the equivalent skills, prior to enrollment in this course.

ITSEC-138**Credits: 1****Scripting for Security Professionals**

This course introduces the scripting, and in particular Python, as a tool for customizing and configuring environments and security tools. In particular, a selection of security tasks such as file hiding, creating the backdoor network and process monitoring, are experimented with using Python. Prerequisite(s): Familiarity with Linux/Unix operating system.

ITSEC-140**Credits: 3****Router Security**

This course covers general network security and introduces routers and their configurations, routing and routed protocols, access list, NAT, configuring network access server for Cisco Secure ACS and TACACS+ and RADIUS. Basic firewall configuration and IDS/IPS concepts are also covered.

MATC strongly recommends that students complete ITSEC-124, or have the equivalent skills, prior to enrollment in this course.

ITSEC-142**Credits: 3****Cisco Security Using Pix Firewall**

This course is an introduction to Cisco network security. Students are introduced to the concepts, principles, types and topologies of firewalls to include packet filtering, proxy firewalls, application gateways, circuit gateways and stateful inspection. Competencies include configuration and monitoring of Pix firewalls. MATC strongly recommends that students complete ITNET-132, or have the equivalent skills, prior to enrollment in this course.

ITSEC-145**Credits: 3****Perimeter Security**

This course covers advanced router configuration, advanced firewall configuration and management, VPN solutions, configuration and management of IDS/IPS, log monitoring, consolidation and reporting. Designing secure network architectures is also covered. Labs utilize a variety of equipment and software from a number of different vendors. MATC strongly recommends that students complete ITSEC-140, or have the equivalent skills, prior to enrollment in this course.

ITSEC-146**Credits: 3****Security Measures and Intrusion Detection**

This course is concerned with the collection of events from audit trails, network monitoring systems and intrusion detection systems, as well as developing a system to provide early warning of information attack. The class teaches students how to identify, exploit and secure well-known and little-known vulnerabilities in Microsoft Windows and Unix/Linux operating systems. Moreover, it explores common weaknesses in router and firewall installations, teaching the methods that are used to circumvent traditional and hardened security filters or firewalls. This core technology area is also concerned with fusion of data from multiple sensors to form a real-time picture of the information assurance battle space. Protective measures and incident response checklist are covered in this course. MATC strongly recommends students complete ITSEC-135 or ITSEC-136, or have the equivalent skills, prior to enrollment in this course.

ITSEC-148**Credits: 3****Securing Wireless Devices and Networks**

Students learn wireless network fundamentals and physical layer standards to build and secure WLAN; to install, configure and manage Cisco Aironet and 3Com Air Connect security and network security settings; and troubleshooting. Devices such as PDAs, wireless cameras and other cutting-edge technologies will be explored. MATC strongly recommends that students complete ITSEC-124, or have the equivalent skills, prior to enrollment in this course.

ITSEC-149**Credits: 3****Emerging Issues in Information Security**

The impact of new technologies on information security is the current issues seminar topic, and others are being planned. This seminar-format course is designed to cover "hot" topics in information assurance technology. The course emphasizes various current or emerging conditions/problems and possible responses/solutions to them. Topics change based on emerging current issues and potential future topics may include advanced OS security, cryptography, forensics, ethics, RFID, VoIP, nanotechnology and other subjects. MATC strongly recommends that students complete ITSEC-114, or have the equivalent skills, prior to enrollment in this course.

ITSEC-151**Credits: 3****IT - Auditing**

In this course, all six domains of the Certified Information Systems Auditor (CISA) exam are covered including the knowledge and technical concepts as specified by CISA certification. These domains include information system auditing process, IT governance, system and infrastructure lifecycle management, IT service delivery and support, protection of information assets, business continuity and disaster recovery. MATC strongly recommends that students complete ITSEC-114, or have the equivalent skills, prior to enrollment in this course.

ITSEC-152**Credits: 3****Information Security Risk Management**

Introduces the student to information security risk management frameworks, based on internationally accepted standards from the National Institute of Standards and Technology (NIST), the International Organization for Standardization (ISO) and others. Students become familiar with the basic aspects of the various standards, and practice their use in measuring risks related to security, regulatory compliance and audits. At course completion, students will have an understanding of risk management strategies and practices, as well as some basic skill in practical application of those strategies.

ITSEC-156**Credits: 3****Mobile Devices Forensics**

In this course, students learn the history and evolution of mobile forensics, understand the cellular network and components, and learn the legal aspects of obtaining cellular evidence. The class also covers imaging mobile devices, understanding cellular records and their use in cellular evidence. Students learn to utilize forensics tools to conduct analysis of mobile devices, and will be able to create an evidence case report. Prerequisite(s): ITSEC-126.

ITSEC-164**Credits: 1****Packet Analysis (Wireshark/Nmap)**

In this course students are introduced to Wireshark and Nmap. Wireshark is a tool used for troubleshooting network problems;

Nmap is used as a penetration testing tool. Students will be introduced to Wireshark interface, how to capture traffic, create and apply capture filters, define time values and interpret basic trace files such as ARP, HTTP, HTTPS, Telnet, FTP and SSH. Students will also be introduced to Nmap and its capability as a security tool to scan different operating systems.

ITSEC-166 Credits: 3

Advanced Forensics

This course addresses advanced topics in computer forensics, mobile forensics, network forensics and incident response. Topics include data hiding, encryption, advanced Windows registry, steganography and password recovery. Prerequisite(s): ITSEC-126.

ITSEC-176 Credits: 3

Malware Forensics

This course will start from malware basics and gradually teach students how to perform a malware forensic investigation as a part of incident response. In addition, an introduction to reverse-engineering malware will be provided. Since familiarity with programming is necessary for this course, an introduction to programming using Python and/or C is covered at the beginning of the course. In addition, general familiarity with networking and TCP/IP, operating system internals (Windows and Unix), computer security, digital forensics and incident response is essential for this course.

ITSEC-190 Credits: 3

Information Systems Security Internship

This is a cooperative training program involving actual work experience. Students obtain a position at an approved work station and work under the supervision of a teacher-coordinator.

ITSEC-191 Credits: 1

Information Systems Security Internship 2

This is a cooperative training program involving actual work experience. Students will obtain a position at an approved work station and work under the supervision of a teacher-coordinator. MATC strongly recommends that students complete ITSEC-190, or have the equivalent skills, prior to enrollment in this course.

ITSEC-194 Credits: 1

Security Project Implementation

This course will help the student gain today's in-demand skills. It emphasizes real and hands-on experience in different areas of security such as security assessment, virtualization, log file consolidation, design and the installation of security tools, including firewalls, IDSs, VPNs and other technologies, existing or new.

ITSOC–IT SOCIAL MEDIA/WEB AND DIGITAL COMMUNICATION

ITSOC-101 Credits: 3

Social Media for Individuals

An introduction to social media concepts and the use of social media tools for personal and professional use. Tweeting, blogging, using location based and networking services will be explored. Learn how to share and engage with others. Discover how to set up and secure sites. The development and implementation of a professional persona utilizing social media will be an individual project for the class. Twitter, Blogger, Google+, LinkedIn, Facebook, Pinterest, Instagram, Yelp and FourSquare will be some of the tools presented in class.

ITSOC-102 Credits: 3

Social Media for Business

This course is an introduction to social media tools utilized in business, internally and externally, for communication, collaboration and community building. The design, setup, use and support of these tools will be emphasized. Content, relationship, access and analytic strategies will be investigated. Students will develop and implement a social media plan for a business as a team project. Twitter, Blogger, Google+, Facebook, Yammer, Yelp, FourSquare and Instagram will be some of the tools presented in class.

ITSOC-105 Credits: 3

Google Apps

Google Apps is a cloud-based productivity suite that enables individuals and organizations to connect and work from anywhere on any device. The suite provides for real-time communication and collaboration. Discover how to work in the cloud. Gmail, Calendar, Drive, Google+, Documents, Sites, Blogger, YouTube and Google Voice are some of the tools presented in class.

ITSOC-109 Credits: 3

Social Media Analytics

Listening is the key to success when implementing social technology initiatives. Designed to give organizations insight into the hidden treasures found within social data, this course explains the analytic process and how to use social data for competitive advantage. This includes analytic services from Google, Buffer, Bitly and others.

ITSOC-110 Credits: 3

Community Management

This course is designed for individuals who are charged with making a specific community successful, defining processes and reporting to stakeholders. This course covers community strategy, online engagement, listening, content strategy, measurement with an emphasis on social media and digital communication.

ITSOC-112 Credits: 3

Social Media Specialist Internship

For course description, see INFOnline at matc.edu.

ITSUP–IT SUPPORT

ITSUP-101 Credits: 3

Computer Information Systems Fundamentals

Students will learn the concepts and terms to better understand the role of information technology; careers for computer professionals; basics in computer hardware, software and networking; as well as the internet in business and society. A brief overview of the history of information technology, as well as strategic future direction, are discussed. Topics include technology trends that affect computing and everyday life such as concerns for data security, personal privacy, online safety, controversy over digital rights management, open source software, smartphone and tablet devices, and more. In addition, coverage of the latest release of Microsoft Windows and Office will introduce students to new features of next-generation consumer and enterprise software. The course is a combination of lecture discussion and hands-on lab assignments.

ITSUP-102 Credits: 4

CompTIA A+ Essentials and IT Technician

This course prepares students for the CompTIA A+ Essentials and IT Technician exams. Students will work on hands-on labs that build and configure computers; replace parts; install and configure operating systems and troubleshoot hardware, software, networking and security problems. Additional topics and hands-on activities include microprocessors, motherboards, BIOS, disk and memory management, preventative maintenance, ESD, power supplies, virtualization, mobile devices, laptops, video, printers, software updates and optimization, managing device drivers and virus protection. For success in this class, students should have a basic knowledge of computer hardware and software, or have completed ITSUP-101.

ITSUP-103 Credits: 1

IT Documentation

Students will prepare technical support documentation using Microsoft and Google word processing and cloud tools, along with screen capturing and diagramming software. This documentation will help future IT professionals' hardware and software assets, and logical and physical topologies.

ITSUP-104 Credits: 1

IT Spreadsheets - Presentations

Students will design effective spreadsheets for organizing budgets, analyzing data with charts, tracking inventory and IT help desk incidents, among other records, using Microsoft Excel and Google spreadsheets. Students also learn to design visually captivating presentations for various audiences in the business world using Microsoft PowerPoint, Google presentations and screen-recording software. In addition, cloud-based collaboration and productivity tools will be presented.

ITSUP-105 Credits: 1

Advanced Troubleshooting Tools

Students use a variety of troubleshooting tools to help support users. This course will include labs in resolving computer, network and security problems. Completion of ITSUP-102, ITNET-101 and ITSEC-124 or knowledge of this content is recommended.

ITSUP-106 Credits: 1

Linux Support

Students acquire a practical understanding of how Linux works. This course will include Linux OS fundamentals, basic commands and file system management as it applies to technical support. Students work on hands-on labs that will use the GUI interface and command line tools.

ITSUP-107 Credits: 1

Malware Detection

This course will cover basic malware analysis and removal methodology. Students examine ways of creating a safe environment, supporting users and gaining hands-on experience with commonly used tools and techniques for mitigating these malicious attacks (malware, rootkits and botnets).

ITSUP-108 Credits: 2

Enterprise Desktop Support Technician

This course prepares students for Microsoft Enterprise Desktop Support Technician (MCITP 70-65) certification. Students learn how to identify the cause and resolve Windows desktop application issues, resolve networking and security issues, identify and resolve performance issues, solve hardware failures, solve enterprise wireless connectivity issues, solve enterprise remote access issues, troubleshoot VPN access and provide IPv6 support, identify and solve enterprise security issues, solve enterprise storage issues, and resolve enterprise software update issues.

ITSUP-140 Credits: 3

Support Center Analyst (HDI-SCA, HDI-DST, ITIL)

This course prepares students for HDI-SCA (Help Desk Institute Support Center Analyst) HDI-DST (Desktop Support Technician) and ITIL Foundation certifications by teaching how to provide front-line support for customers. The course focuses on strategies for effective customer service with an emphasis on problem-solving

and troubleshooting skills, call-handling procedures, incident management and call tracking applications. Topics such as active listening skills and effective communication strategies will be covered, as well as strategies for improving customer interactions.

ITSUP-142 Credits: 3

Cisco Security Using Pix Firewall

This course is an introduction to Cisco network security. Students are introduced to the concepts, principles, types and topologies of firewalls to include packet filtering, proxy firewalls, application gateways, circuit gateways and stateful inspection. Competencies include configuration and monitoring of Pix firewalls. MATC strongly recommends that students complete ITNET-132, or have the equivalent skills, prior to enrollment in this course.

ITSUP-150 Credits: 3

Mobile Device Repair and Support

This course provides students with expert mobile device repair knowledge and advanced repair skills. It incorporates both classroom education and hands-on real-world repair scenarios where students gain immediate knowledge to service and repair smartphones, cellular phones and hand-held devices. Students learn how to disassemble and repair iOS, Android and Windows Mobile devices. Students also learn how to troubleshoot phone issues; resolve network communication issues on the device; replace batteries, LCD, broken lens, cameras and touch screens. Course also teaches students the concepts of data transfers and recovery, jailbreaking, and cell phone locking and unlocking.

ITSUP-152 Credits: 3

Apple OSX Certified Support Professional (ACSP)

This hands-on course provides an in-depth exploration of troubleshooting of the Apple OSX operating systems and prepares students for Apple OSC Certified Support Professional (ACSP) certification. This course will teach students the best methods for effectively supporting users of the Apple OSX operating system. Course covers labs on installation, setup and configuration, OSX recovery, software updates, file system, FileVault, permissions and sharing, data management, application and processes, network configuration, network services, peripherals, printing and system startup. The course is a combination of lecture and hands-on case study exercises that provide practical, real-world experience.

ITSUP-153 Credits: 3

CompTIA Mobility+ (iOS, Android and Windows)

This hands-on course prepares students for the Comp TIA Mobility+ Certification exam. Students will gain knowledge and hands-on skills required to understand and research capabilities of mobile devices and features of over-the-air technology. Students will learn device administration of three major mobile platforms: iOS, Android and Windows Mobile.

They will also learn to deploy, integrate, support and manage a mobile environment, ensuring proper security measures are implemented for devices and platforms while maintaining usability. Students learn various encryption methods used for securing mobile devices, authentication best practices, disk and folder encryption, and other security concepts to help secure and protect data on mobile devices. This course is a combination of lectures and hands-on exercises with iPad, Google Nexus and Microsoft Surface Pro devices.

ITSUP-154 Credits: 1

Technology and Computer Hardware

Through hands-on lab activities, students practice building, installing and configuring computer systems. Hardware topics include motherboards, BIOS, CPUs, RAM, power supplies, ESD, expansion cards, connection interfaces, storage devices, display devices, printers and other peripheral devices. This class provides good background material for the hardware and operational procedures content of the current CompTIA A+ exam.

ITSUP-155 Credits: 3

Advanced Computer Troubleshooting and Repair

This course builds on the computer hardware and operating system troubleshooting fundamentals of CIS-163 (A+ Core and OS Technologies). Through hands-on activities, students learn to troubleshoot and optimize computer hardware and operating systems. Lab activities include building and configuring desktop PCs, building and configuring multimedia PCs and configuring wireless networks. MATC strongly recommends that students complete ITSUP-102, or have the equivalent skills, prior to enrollment in this course.

ITSUP-159 Credits: 3

Web Maintenance/Security

Students focus on website maintenance, such as making content changes to sites, using tools such as JavaScript, monitoring traffic/transaction volume, implementing backup procedures and installing software upgrades to a web server. Security will be a major component, discussing access control, virus problems and firewalls. Hands-on exercises will allow students to demonstrate competencies in the areas listed above. MATC strongly recommends that students complete ITSUP-101 and ITNET-102, or have the equivalent skills, prior to enrollment in this course.

ITSUP-176 Credits: 3

IT Project Management

This course provides students with added critical skills needed for success in the ever-changing IT industry through understanding of project management (PM) genesis and its importance in improving the success of IT projects, demonstrating in-depth knowledge of PM terms and techniques, and applying various PM concepts to group projects as project manager or team member.

Consequently, students capture MS Project software skills and an appreciation of PM in the IT industry at large.

ITSUP-198 Credits: 2

Computer Support Specialist Internship

This course directs students to obtain an IT internship at local employers. Based on the jobs available, students will perform required IT Computer Support Specialist activities: configure and install new software; troubleshoot and solve issues with hardware, OS and applications, networks and virtual setups and configurations.

ITSUP-199 Credits: 1

Integrated Project - Computer Support Specialist

This integrated course is a capstone project that reflects the student's culminating experience in the IT Computer Support Specialist program. Students integrate their knowledge and skills in IT by working on the final project, demonstrating core ability skills and displaying overall comprehension of the discipline.

LOGMGT–LOGISTICS AND MATERIALS/ SUPPLY MANAGEMENT

LOGMGT-101 Credits: 1

Manufacturing Skills Safety

This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Safety online assessment. The class will concentrate on the specific content covered in the MSSC Safety module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Technician Safety credential.

LOGMGT-102 Credits: 1

Manufacturing Skills Quality

This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Quality online assessment. The class will concentrate on the specific content covered in the MSSC Quality module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Technician Quality credential.

LOGMGT-103 Credits: 1

Manufacturing Skills - Manufacturing Processes

This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Manufacturing Processes online assessment. The class will concentrate on the specific content covered in the MSSC Manufacturing Processes module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Manufacturing Processes credential.

LOGMGT-104 Credits: 1

Manufacturing Skills Maintenance

This class prepares the student to successfully complete the Manufacturing Skill Standards Council (MSSC) Maintenance online assessment. The class will concentrate on the specific content covered in the MSSC Maintenance module, and students that successfully complete the associated national exam will be awarded the nationally recognized MSSC Certified Production Maintenance credential.

LOGMGT-131 Credits: 3

Supply Chain CRM Quality Assurance

This course examines how to focus the organization on the needs of the customer. Students will learn about assessing quality needs, enhancing relations, evaluating satisfaction and incorporating customer requirements into the design of products. This course uses the House of Quality matrix to build customer requirements into all phases of the delivery of products and services.

LOGMGT-144 Credits: 3

Production Planning and Inventory Control

This course focuses on inventory and planning concerns. The planning side of operations is examined including master scheduling, requirements planning, capacity management, shop floor control and forecasting.

LOGMGT-146 Credits: 3

Operations Management

This course is designed to acquaint students with the specialized vocabulary and problems encountered in manufacturing management. Tools and techniques for solving production-process problems are presented with an emphasis on quality and productivity.

LOGMGT-164 Credits: 3

Supply Chain Management

Warehousing and product-flow through marketing channels and the transportation network are studied. The total cost concept of logistics management is introduced and plant location, packaging and materials handling are discussed along with current, related computer technologies.

LOGMGT-170 Credits: 3

Purchasing

This course includes an analysis of the purchasing process, a review of purchasing activities and identification of purchasing problems in modern organizations. Attention is given to the role of purchasing in the organization, supplier selection, negotiation, sourcing issues, inventory management and quality concerns. Prerequisite(s): MKTG-102.

LOGMGT-184 Credits: 3

International Logistics - Transportation/ Documentation

Management of international transportation of imports and exports is studied. Special attention is given to the preparation of export documentation and import documentation.

Management and selection of international transportation modes and pricing regulations are explained.

LOGMGT-190 Credits: 3

Transportation

The entire transportation industry is examined, with emphasis on moving freight and providing insight on how to effectively work within the transportation industry. Selection and management of freight transportation services are explored, including shipping documentation, claims management, carrier pricing methods, carrier contract and price negotiations, transportation laws, regulations and how transportation management affects supply chain management. Also introduced are the special requirements needed for international transportation.

LOGMGT-192 Credits: 3

Transportation Pricing

Methods of assessing transportation rates and prices for all modes are explained. Computerized transportation rates are demonstrated. Methods of computing motor carrier rate, both less than truckload and truckload, are explained in addition to assessorial changes. Ability to negotiate favorable rates will be enhanced by understanding how the present system works. Prerequisite(s): LOGMGT-190.

LOGMGT-195 Credits: 3

Freight Claims

The law and court cases as they relate to freight loss, damage claims, and strategies to minimize loss and damage in transit are studied. There will be an opportunity to study and discuss cases relating to freight loss and damage, and apply the law found in the text. Prerequisite(s): LOGMGT-190.

MACHTL–MACHINE SHOP

MACHTL-100 Credits: 1

Metrology for CNC

Students are introduced to inspection terminology, measuring instruments, instrument handling and measuring techniques. Along with hands-on use of each measuring instrument, the course provides the student with criteria for proper instrument selection based on the part print requirements.

MACHTL-105 Credits: 2

Machine Shop for Related Trades

This course is based upon selected operations performed on the bench, drill press, engine lathe, milling machine and pedestal grinder.

MACHTL-110 Credits: 1

Machine Tool Technology

This course is designed to teach the student safety, terminology and theory for the basic machine tools found in the common machine shop. Machine types, components, operations, tooling, machining applications and work holding are discussed. The student will also learn about different materials, machinability and cutting tool selection.

MACHTL-120 Credits: 1

Machine Technology 1

See course description on INFOline at matc.edu.

MACHTL-121 Credits: 1

Machine Technology 2

See course description on INFOline at matc.edu.

MACHTL-185 Credits: 1

Machine Blueprint Reading

This course covers the basic principles essential for visualization and training in the interpretation of blueprints and freehand sketches of simpler machine parts. Emphasis is placed upon orthographic projection principles and pictorial drawing.

MACHTL-300 Credits: 3

Engine Lathe 1 (Turning)

This course offers basic instruction for turning operations on an engine lathe. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Instruction includes using basic hand tools, layout, performing bench work, part inspection, safety and job organization. Detailed information is given on lathe setup, controls, tooling, work holding and general operational guidelines. Upon completing this course, the students will be able to set up and operate an engine lathe, and will be able to produce parts that require basic turning operations in a chuck, as well as basic turning between centers.

MACHTL-301 Credits: 3

Engine Lathe 2 (Turning)

This course offers more advanced instruction for performing chucking operations on an engine lathe. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Safety, part inspection, shop and job organization, job planning and proper turning procedures will be presented. The student will learn to set up and operate an engine lathe and produce parts that are more advanced. Instruction will also be provided for using basic hand tools, performing bench work, and off-hand grinding on a pedestal grinder. Prerequisite(s): MACHTL-300.

MACHTL-304 Credits: 1

Introduction to CNC Programming

Course prepares the student to write basic programs for CNC turning and CNC vertical milling machines. Application of the Cartesian coordinates system is taught along with programming format. The CNC vertical milling center students write basic programs using linear and rapid moves, circular interpolation, geometry offsets and a variety of canned cycles. Then the CNC turning portion of the course requires students to write programs that will include linear and rapid moves, circular interpolation with tool nose radius compensation, canned cycles and

threading cycles. Prerequisite(s): Completion of or be currently enrolled in MACHTL-320 and MACHTL-322.

MACHTL-309 Credits: 3

Manual Vertical Milling Machine 1

This course offers basic instruction for machining operations on a manual vertical milling machine. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Items of instruction will include using basic hand tools, part layout, part inspection, bench work, safety and job organization. Detailed information will be given on milling machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a manual vertical milling machine producing square parts with drilled and tapped holes. Students also learn to set up and operate a vertical band saw and a cut off saw. Additionally, students will perform off-hand grinding on a pedestal grinder.

MACHTL-310 Credits: 3

Manual Vertical Milling Machine 2

This course offers more advanced instruction for machining operations on a manual vertical milling machine. Instruction is based on Machining Level 1 skill standards established by the National Institute for Metalworking Skills. Safety, part inspection, shop and job organization, job planning and proper machining procedures will be presented. Detailed information is given on milling machine setup and operation to produce parts requiring slots, steps, bored and reamed holes. In addition to working on the manual vertical milling machine, the student will also learn how to set up and perform multiple operations on a drill press. Prerequisite(s): MACHTL-309.

MACHTL-316 Credits: 3

CNC Vertical Machining Center 1

Students become familiar with the setup and operation of a CNC vertical milling machine, learn to locate and identify various parts of the CNC machine tool and controller, acquire fundamental skills and knowledge of tooling and machine setups, perform CNC program proveouts, and machine several parts. Students will read CNC programs including canned cycles G81 through G84. Special emphasis is given to preparing students to become setup people and operators. Prerequisite(s): MACHTL-304, MACHTL-309, MACHTL-310.

MACHTL-317 Credits: 3

CNC Vertical Machining Center 2

Students will gain further skills in becoming setup people and operators. Additional setup techniques, different programming formats and program editing are covered in this course. The programming codes G02, G03, G84, G76 and G86 are emphasized. Special holding fixtures are also introduced. Prerequisite(s): MACHTL-316.

MACHTL-318 Credits: 3

CNC Turning Center 1

Students become familiar with the setup and operation of a CNC turning center, learn the various functions of the machine's controller, and acquire fundamental skills and knowledge of tooling and machine setups. Students become familiar with CNC programming techniques without actually doing the programming. Special emphasis is on preparing the student to become setup people and operators. Prerequisite(s): MACHTL-300, MACHTL-301, MACHTL-304.

MACHTL-319 Credits: 3

CNC Turning Center 2

Students develop the necessary skills to become CNC turning center setup people and operators. While developing these skills, students learn taper turning, boring, taper boring, internal and external single-point threading, and more. Students also will be developing additional skills in reading and interpreting of CNC programs. Prerequisite(s): MACHTL-318.

MACHTL-320 Credits: 4

Introduction to CNC Turning Centers

Students are introduced to basic CNC turning setup and operation. The course begins with the student loading and running existing programs. After becoming familiar with the controls and the setup process, the student begins to edit existing programs. By the end of the course, the student will produce parts to print specifications from programs developed on their own. Prerequisite(s): MACHTL-301.

MACHTL-322 Credits: 4

Introduction to CNC Vertical Machining Centers

Students are introduced to basic CNC milling machine setup and operation. The course begins with the student loading and running existing programs. After becoming familiar with the controls and the setup process, the student begins to edit existing programs. By the end of the course, the student will produce parts to print specifications from programs developed on their own. Prerequisite(s): MACHTL-310.

MACHTL-325 Credits: 4

Surface Grinding

This course is designed to teach the student the basics of surface grinding on a manual surface grinder. General maintenance of the machine will be covered, along with wheel mounting, chuck preparation and work holding. The student will learn a variety of methods for squaring blocks. Slot grinding and angular grinding are also covered.

MACHTL-346 Credits: 2

Machine Shop for Related Trades

Instruction in this course is based upon selected operations performed on the bench, drill press, engine lathe, milling machine and pedestal grinder.

MACHTL-347 Credits: 3

Single Spindle Automatic Screw Machine 1

This course offers instruction on the basic operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Items of instruction will include using basic tools, tool sharpening, machine layout, part inspection, safety and job organization. Detailed information will be given on the screw machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course the student will be able to set up and operate an automatic screw machine and produce parts that require basic operations.

MACHTL-348 Credits: 3

Single Spindle Automatic Screw Machine 2

This course offers more advanced instruction on the operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the setup of screw machine tooling used for box milling, knurling, internal and external threading and operational guidelines. Upon completion of the course, the student will be able to set up and operate an automatic screw machine and produce parts that require more operations. Prerequisite(s): MACHTL-347.

MACHTL-349 Credits: 3

Single Spindle Automatic Screw Machine 3

This course offers more advanced instruction on the operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the setup of screw machine tooling used for boring, recessing, deep hole drilling, the vertical holder and operational guidelines. Upon completion of the course, the student will be able to set up and operate an automatic screw machine and produce parts that require more operations and more complex setups.

MACHTL-350 Credits: 3

Single Spindle Automatic Screw Machine 4

This course offers more advanced instruction on the operations on an automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the setup of screw machine tooling used for double feed out, shaving and thread forming, and operational guidelines. Upon

completion of the course, the student will be able to set up and operate an automatic screw machine and produce parts that require more operations and more complex setups.

MACHTL-355 Credits: 1

Machine Trades Science 1

This course explores science as it relates to the field of metalworking. The student is introduced to the metric system and its conversion formula, trigonometry as it is used in scientific experiments, computers as they are applied to metalworking, and electricity as a metalworking agent. Prerequisite(s): MACHTL-386.

MACHTL-360 Credits: 1

Metrology

Students are introduced to inspection terminology, measuring instruments, instrument handling and measuring techniques. Along with hands-on use of each measuring instrument, the course provides the criteria for proper instrument selection based on part print requirements.

MACHTL-361 Credits: 3

Multiple Spindle Automatic Screw Machine 1

This course offers instruction on the basic operations on a multiple spindle automatic screw machine. Instruction is based on Machining Level 2 skill standards established by the National Institute for Metalworking Skills (NIMS). Instruction will include using basic tools, tool sharpening, machine layout, part inspection, safety and job organization. Detailed information will be given on the basic screw machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require basic operations. Prerequisite(s): MACHTL-350.

MACHTL-362 Credits: 3

Multiple Spindle Automatic Screw Machine 2

Instruction is expanded to more operations on a multiple spindle automatic screw machine. Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the multiple spindle screw machine tooling used for turning, reaming and recessing. The student will be introduced to the steps for calculating a layout for the machine. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require advance operations. Prerequisite(s): MACHTL-361.

MACHTL-363 Credits: 3

Multiple Spindle Automatic Screw Machine 3

This course offers more advanced instruction on the operations of a multiple spindle automatic screw machine. Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the multiple spindle screw

machine tooling used for shaving, internal and external threading. The student will produce a layout for each project. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require complex operations.

MACHTL-364 Credits: 3

Multiple Spindle Automatic Screw Machine 4

This course offers more advanced instruction on the operations of a multiple spindle automatic screw machine. Instruction will reinforce tool grinding, part inspection, safety and job organization. Detailed information will be given on the multiple spindle screw machine tooling used for thread rolling and the special attachments to produce a rolled thread. Upon completion of the course, the student will be able to set up and operate a multiple spindle automatic screw machine and produce parts that require complex operations and create a layout.

MACHTL-367 Credits: 1

Machine Tool Technology

This course is designed to teach the student safety, terminology and theory for the basic machine tools found in the common machine shop. Machine types, components, operations, tooling, machining applications and work holding are discussed. The student also learns about different materials, machine ability and cutting tool selection.

MACHTL-371 Credits: 3

CNC Swiss Turning Center 1

This course offers instruction on the basic operations and setup of a CNC automatic turning machine. Instruction will include basic setup, use of the CNC control, tools, machine layout, part inspection, safety and job organization. Detailed information will be given on the basic machine setup, controls, tooling, work holding and general operational guidelines. Upon completion of the course, the student will be able to set up and operate a CNC automatic turning machine and produce parts that require the basic operations, such as turning, drilling and reaming.

MACHTL-372 Credits: 3

CNC Swiss Turning Center 2

This course offers instruction on the more complex operations on a CNC automatic turning machine. Items of instruction will include editing of the CNC program, calculations for the CNC program, and more complex machining operations on the CNC automatic turning machine. Upon completion of the course the student will be able to edit a CNC program, set up and operate a CNC automatic turning machine and produce parts that require complex operations such as boring, grooving and canned cycles.

MACHTL – MATGEN

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MACHTL-373 Credits: 3

CNC Swiss Turning Center 3

This course offers instruction on the more complex operations on a CNC automatic turning machine. Items of instruction will include creating a CNC program, calculations for the CNC program and more complex machining operations on the CNC automatic turning machine. Upon completion of the course the student will be able to edit a CNC program, transfer the program, and set up and operate a CNC automatic turning machine using complex operations, such as external and internal threading and tapping.

MACHTL-374 Credits: 3

CNC Swiss Turning Center 4

This course offers instruction on the more complex operations on a CNC automatic turning machine. Items of instruction will include creating CNC tool list, CNC program, calculations for the CNC program and more complex machining operations on the CNC automatic turning machine. Upon completion of the course the student will be able to create a CNC program from a part print, select the proper tooling and set up the machine to produce the part to print specifications.

MACHTL-384 Credits: 1

Machine Trades Mathematics 1

This course provides students with the necessary mathematical foundation for problem-solving in the metalworking trades. A review of the basic principles of arithmetic and algebra is offered.

MACHTL-385 Credits: 1

Machine Trades Mathematics 2

This course presents an introduction to geometric methods applicable to the machine shop. It also provides students with an opportunity to analyze and solve a variety of practical, machine trade applications and problems. Prerequisite(s): MACHTL-384.

MACHTL-386 Credits: 1

Machine Trades Mathematics 3

This course presents an introduction to the trigonometric solution of shop problems. The basic right triangle functions and oblique triangle laws of sine and cosine are used to solve problems. Prerequisite(s): MACHTL-385.

MACHTL-387 Credits: 1

Machine Trades Mathematics 4

The application of trigonometry in the solution of more complex shop problems is presented. Included are problems with tapers, sine bar, dovetails, correlate distances, hole locations, measurement of screw threads, and measurement using rods and balls. Prerequisite(s): MACHTL-386.

MACHTL-391 Credits: 1

Quality Control

This course is a continuation of MACHTL-360 Metrology. The level of precision is increased

as more precise instruments and methods of inspection are taught. Gage blocks, the optical comparator, dial bore gages, and the coordinate measuring machine (CMM) are just some of the advanced pieces of equipment that are introduced. The basic concept of statistical process control (SPC) is also presented. Prerequisite(s): MACHTL-360.

MASON—MASONRY/BRICKLAYING

MASON-300 Credits: 5

Fundamental Bricklaying

This course provides training in laying brick and blocks, with application to straight walls, corners and jambs. Students develop skills in the handling of bricklaying tools, spreading mortar, laying bricks and blocks to a line and striking joints. Prerequisite(s): Must be admitted to Bricklaying program (30-408-2).

MASON-302 Credits: 1

OSHA/First Aid for Masons

First aid according to the Red Cross and the U.S. Occupational Safety and Health Administration guidelines, with an emphasis on masonry construction, will be covered in this course. Prerequisite(s): Student must be admitted to Bricklaying program (30-408-2).

MASON-303 Credits: 5

Advanced Bricklaying

This course provides training in constructing walls with various brick bonds, brick sills, blocked walls and details of veneering. Emphasis is on developing masonry skills to accepted trade standards. Prerequisite(s): MASON-300, and must be admitted to Bricklaying program (30-408-2).

MASON-306 Credits: 5

Advanced Masonry Techniques 1

Efficiency, productivity and professional workmanship are emphasized, while hands-on projects prepare the student for employment. Chimney construction and layout of a working masonry fireplace are practiced. Prerequisite(s): MASON-303.

MASON-308 Credits: 1

Job Safety and Layout

The proper use, care and maintenance of tools and equipment of the trowel trades are studied with specific emphasis on construction safety. Basic building layout is taught as it relates to masonry. Prerequisite(s): Students must be admitted to Bricklaying program (30-408-2).

MASON-310 Credits: 5

Advanced Masonry Techniques 2

A hands-on course covering construction of arches, brick panels and stonework for various bonds and arches. Practical work is given in layout for arches, panels and stonework. The cutting of brick and stone are practiced. Glass block and thin veneer techniques are taught. Prerequisite(s): MASON-306.

MASON-356 Credits: 2

Methods 1 - Fundamentals

This is a basic technical course in the practice and methods of the masonry trade. Through analysis, demonstration and discussion, various operations used in the trade are studied. Prerequisite(s): Student must be admitted to Bricklaying program (30-408-2); completion of or currently enrolled in MASON-300.

MASON-357 Credits: 2

Methods 2 - Advanced

Through analysis, demonstration and discussion, various phases of work, which are part of the masonry trade, are studied to understand the entire scope of masonry. Arches, fireplaces, grouting and flashing techniques, along with hot- and cold-weather masonry construction are studied. Prerequisite(s): MASON-356.

MASON-380 Credits: 1

Mathematics for Bricklayers 1

Through practical problems of the masonry trade, students review addition; subtraction; fundamentals of fractions and decimals; percentages, weights and measures; linear, square and cubic measurements; weights; and the application of formulas. Prerequisite(s): Student must be admitted to Bricklaying program (30-408-2).

MASON-381 Credits: 1

Mathematics for Bricklayers 2

Prepared specifically for bricklayers and masons, this course includes mathematics of linear, square and cubic measurements; weights; application of formulas; and organizing procedures in determining qualities of materials. Prerequisite(s): MASON-380.

MASON-387 Credits: 2

Blueprint Reading for Masons

Students are trained to visualize and interpret evaluations, plan views, sections and details from blueprints and translate them into practical situations. Interpretations of symbols, conventions and abbreviations are taught.

MATGEN—MATH GENERAL STUDIES (PLI)

MATGEN-109 Credits: 3

Pre-Algebra

Introduces many basic topics in algebra and arithmetic processes. This transition course prepares students to succeed in their next math class (elementary algebra and subsequent algebra-related courses). Prerequisite(s): Satisfactory MATC placement test score.

MATGEN-110 Credits: 3

Elementary Algebra With Applications

Offers traditional algebra topics with applications. Students develop algebraic

problem-solving techniques needed for technical problem-solving and for more advanced algebraic studies. Topics are linear equations, exponents, polynomials, rational expressions, roots and radicals. Completion prepares learners to succeed in technical mathematics courses. Prerequisite(s): MATGEN-109 (minimum grade C) or satisfactory MATC placement test score.

MATH–MATHEMATICS

MATH-107 Credits: 3

College Mathematics

Students review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra, 2) geometry and trigonometry, and 3) probability and statistics. Special emphasis is placed on problem-solving, critical thinking and logical reasoning, making connections and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean theorem to solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data. Prerequisite(s): MATGEN-109 (minimum grade C) or satisfactory math placement test scores.

MATH-113 Credits: 3

College Technical Mathematics 1A (Applied Algebra)

Topics include solving linear, quadratic and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1. Prerequisite(s): MATGEN-110 (minimum grade C).

MATH-114 Credits: 2

College Technical Mathematics 1B (Applied Geometry and Trigonometry)

This course is a continuation of College Technical Mathematics 1A. Topics include measurement systems; computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems. Prerequisite(s): MATH-113 (minimum grade C).

MATH-115 Credits: 5

College Technical Mathematics 1

Topics include solving linear, quadratic and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Completion of MATH-113 and MATH-114 with a grade of C or better is equivalent to MATH-115. Also College Algebra and Trigonometry (MATH-230), or College Algebra (MATH-201) and Trigonometry (MATH-202) may substitute for MATH-115 and MATH-116 when taken in combination. Prerequisite(s): MATGEN-110 (minimum grade C) or satisfactory MATC placement test score.

MATH-116 Credits: 4

College Technical Mathematics 2

Topics include vectors, trigonometric functions and their graphs, identities, exponential and logarithmic functions and equations, radical equations, equations with rational exponents, dimension of a circle, velocity, sine and cosine graphs, complex numbers in polar and rectangular form, trigonometric equations, conic sections and analysis of statistical data. Emphasis will be on the application of skills to technical problems. Prerequisite(s): MATH-114 or MATH-115 (minimum grade C).

MATH-123 Credits: 3

Math with Business Applications

This course integrates algebraic concepts, proportions, percents, simple interest, compound interest, annuities and basic statistics with business/consumer scenarios. It also applies math concepts to the purchasing/buying and selling processes. Prerequisite(s): MATGEN-109 (minimum grade C) or satisfactory MATC placement test score.

MATH-189 Credits: 3

Introductory Statistics

Students taking Introductory Statistics display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They use probability and distributions to make predictions, estimate parameters and test hypotheses. They draw inferences about relationships including ANOVA. Prerequisite(s): MATGEN-110, MATH-113, MATH-114 or satisfactory MATC placement test score.

MATH-197 Credits: 5

College Algebra and Trigonometry With Applications

This course covers those skills needed for success in calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and

nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatorics and the binomial theorem. Prerequisite(s): MATH-200 (minimum grade of B) or satisfactory MATC placement test score.

MATH-200 Credits: 4

Intermediate Algebra

Students study the construction and resulting properties of the real number system. Students simplify and factor algebraic expressions using fundamental laws and order of operations; solve first and second degree equations and inequalities in one variable, systems of equations and exponential and logarithmic equations; graph first degree and second degree equations and inequalities in two variables; inverse functions and solve equations involving rational expressions, fractional exponents and radicals. Students will learn the basic definitions of relations and functions, and perform operations on functions. Prerequisite(s): MATGEN-110 (minimum grade C) or a satisfactory MATC placement test score.

MATH-201 Credits: 4

College Algebra

Students study properties of the real and complex number system; quadratic, polynomial, rational, exponential and logarithmic functions; equations and inequalities; combinatorics; the binomial theorem; the use of matrices and determinants in solving systems of equations, systems of inequalities, non-linear systems, sequences, series and probability. Course includes use of a graphing calculator. Prerequisite(s): MATH-200 (minimum grade C) or satisfactory MATC placement test score.

MATH-202 Credits: 3

Trigonometry

Topics include circular functions, graphing of trigonometric functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles, complex numbers, DeMoivre's theorem, polar coordinates and vectors. Learning involves extensive use of a graphing calculator. Prerequisite(s): MATH-201 (minimum grade C).

MATH-205 Credits: 4

Finite Mathematics

Topics include basic functions, mathematics of finance, systems of linear equations, matrices, linear inequalities and linear programming, probability and Markov chains. Learning will involve the extensive use of a graphing calculator. Prerequisite(s): MATH-200 (minimum grade C).

MATH-206 Credits: 4

Contemporary Applications of Math

This course applies mathematics to democracy and fair division, planning routes, networking, solving puzzles, guessing, data analysis, and patterns and chaos. Prerequisite(s): MATGEN-110 (minimum grade C), or satisfactory score on the MATC placement test.

MATH-230 Credits: 5

College Algebra and Trigonometry

This course prepares students for calculus. Topics include real and complex number systems, equations, inequalities, functions (linear, polynomial, rational, radical, exponential, logarithmic and trigonometric) and their graphs, systems of equations and inequalities (linear and nonlinear), conic sections, theory of equations, matrix methods of solution of linear equations, analytic trigonometry and applications of trigonometry. Learning involves extensive use of a graphing calculator. Prerequisite(s): MATH-200 (minimum grade B) or satisfactory MATC placement test score.

MATH-231 Credits: 5

Analytic Geometry and Calculus 1

Introduces the basic properties of limits; rate of change of functions; continuity; derivatives of algebraic, trigonometric, and elementary and transcendental functions and their applications of derivatives; the indefinite integral and its applications including areas, derivatives and integrals involving logarithmic exponential, inverse trigonometric and hyperbolic functions; curve sketching; finding maxima and minima. Use of a graphing calculator is required. Lecture. Prerequisite(s): MATH-202 or MATH-230 (minimum grade C), or four years of high school math (including two years of algebra, one year of geometry and one semester of trigonometry; minimum grade B), or a satisfactory score on MATC placement test.

MATH-232 Credits: 5

Analytic Geometry and Calculus 2

Introduces techniques and applications of integration, numerical approximation of definite integrals, improper integrals, infinite series and an introduction to first order differential equations, parametric equations and derivatives of parametric curves, polar coordinates in the plane and integrals using polar coordinates, transcendental functions, in determinate forms, Taylor's formula and topics from analytic geometry. Use of a graphing calculator is required. Lecture. Prerequisite(s): MATH-231 (minimum grade C).

MATH-233 Credits: 5

Analytic Geometry and Calculus 3

A continuation of MATH-232. Topics include vectors, geometry of space, vector valued functions, partial derivatives, multiple integrals and vector analysis. Extensive use of the graphing calculator is required. Prerequisite(s): MATH-232 (minimum grade C).

MATH-234 Credits: 4

Differential Equations/Linear Algebra

Topics include elementary differential equations, vendors, matrices, linear transformations, quadratic forms, Eigen values and applications. Extensive use of the graphing calculator is required. Prerequisite(s): MATH-232 or MATH-233.

MATH-241 Credits: 3

Linear Algebra

This course provides an introduction to linear algebra. Topics include systems of linear equations solved by use of matrices, properties and operations of matrices, determinants, operations with vectors, vector spaces, Eigen values and Eigen vectors, linear transformations and applications. Prerequisite(s): MATH-233 (minimum grade C).

MATH-260 Credits: 3

Basic Statistics

Covers appropriate statistical techniques for the systematic collection, presentation, analysis and interpretation of data. Students will study statistical inference including sampling techniques, confidence intervals, type I and II errors, hypothesis testing and results interpretation. Also includes descriptive statistics, basic probability theory, the Central Limit Theorem, probability distributions, linear regression, correlation and sample sizes. May require use of a graphing calculator or computer software. Lecture. Prerequisite(s): MATH 200 (minimum grade C), or satisfactory MATC placement test score.

MATH-275 Credits: 3

Math Exploration for Elementary Teachers 1

This course is intended for students enrolled in the teacher education track. Topics include theory of arithmetic of whole numbers, fractions and decimals. Also includes an introduction to algebra, estimation and problem-solving strategies. Prerequisite(s): MATGEN-110 (minimum grade C), or satisfactory MATC placement test score.

MATH-276 Credits: 3

Math Explorations for Elementary Teachers 2

A continuation of MATH-275, covering geometry, statistics and probability. Prerequisite(s): MATH-275 (minimum grade C).

MATH-304 Credits: 1

Math Principles 1

Topics include a review of operations with numbers, fractions, decimals, calculator skills, formulas, percents and measurement conversions. Applications are related to technical diploma programs. Prerequisite(s): Satisfactory MATC placement test score.

MATH-308 Credits: 2

Math for Industrial Applications 1

Concepts in basic algebra, along with principles of plane geometry, are studied. Emphasis is placed on calculating

dimensions and angles of geometric figures related to industrial occupations. Prerequisite(s): Satisfactory math placement scores are required.

MTRLs—MATERIALS AND METALLURGICAL TECHNOLOGY

MATRLS-102 Credits: 3

Materials Testing

This lab/lecture course defines properties of engineering materials and then performs tests to measure these properties. ASTM procedures are examined and applied to many of the tests. Tests performed include hardness, tensile, impact, shear, compression, creep and bend testing. The course also covers failure modes such as fatigue and corrosion.

MATRLS-103 Credits: 3

Nondestructive Testing

The lab/lecture course emphasizes the use of nondestructive testing to inspect parts and components for defect/discontinuities. It also discusses the origins of common defects in manufactured products such as castings, wrought metal and weldments. Lab work includes radiography, ultrasonics testing, dye penetrant testing, magnetic particle testing, visual inspection and eddy current testing. ASTM procedures are examined and applied to many of the tests.

MATRLS-105 Credits: 2

Statistical Process Control

This lecture course teaches the basic concepts of quality control and statistical process control (SPC). Histograms, normal distributions, control charts (including $\bar{x}$ and $\bar{r}$, moving range, p and np) and process capability are covered. These tools are applied to common applications in manufacturing and service industries.

MATRLS-108 Credits: 2

Principles of Metallography

This lab/lecture course studies the microstructures of common ferrous alloys (carbon and alloy steels, cast irons) and their relationship to chemical composition, thermal cycles and mechanical properties. Phase diagrams are used to understand microstructures. Laboratory methods covered include sample preparation, microscopic and macroscopic examination, and photography. Digital image analysis is introduced. Prerequisite(s): MATRLS-151.

MATRLS-110 Credits: 2

Fundamentals of Heat Treatment of Metals

This lab/lecture course studies the microstructure and property changes that occur during heat treatment of steel and cast iron, and relates these changes to the iron-carbon phase diagram. Treatments performed include hardening, tempering, normalizing, annealing and surface hardening. Lab work also includes hardness testing and some metallography.

MTRLs – MCDESG DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MATRLS-112 Credits: 3

Advanced Metallography

This course covers complex alloys and advanced laboratory techniques related to ferrous and nonferrous alloys including stainless steel, cast and wrought aluminum alloys, superalloys and powder metals. The relationship of composition and microstructures to properties of various engineering materials are studied. Materials used in power generating equipment are covered, especially those related to renewable energy. Prerequisite(s): MATRLS-108.

MATRLS-114 Credits: 2

Advanced Heat Treatment of Metals

This second course in heat treatment builds on the basic concepts of ferrous heat treatment and also works with nonferrous alloys. I-T diagrams in steels, hardenability testing and solution-age hardening of various alloys are covered. Computer software is used to predict heat treat response of carbon and low alloy steels. Prerequisite(s): MATRLS-110.

MATRLS-130 Credits: 3

Intermediate Nondestructive Testing

This course is designed to meet the minimum standards for the American Society of Nondestructive Testing (ASNT) in the testing areas of ultrasonic, radiographic, eddy current and visual testing. Prerequisite(s): MATRLS-103.

MATRLS-151 Credits: 3

Metallurgy and Materials Science

This lecture/demonstration course studies engineering materials (metals, plastics, ceramics and composites). Topics include refining and recycling of metals, classification and uses of steels, cast irons, nonferrous alloys, plastics, material properties, phase diagrams, heat treatment, corrosion and solidification. Atomic structure and nanotechnology are discussed.

MCDESG–MECHANICAL TECHNOLOGY

MCDESG-102 Credits: 3

Technical Drafting 1

This course is designed to provide the principles of drafting as well as an introduction to computer-aided drafting. Geometric constructions, sketching, orthographic projection, section views, dimensions (without tolerances) and primary auxiliary views are covered in this course. Prerequisite(s): Completion of or currently enrolled in CIVIL-102.

MCDESG-104 Credits: 3

Technical Drafting 2 With CAD

This course covers screw thread representation, tolerance and fits, layout drawings, structural steel and weldment representation, secondary auxiliary views, and development of prismatic and cylindrical surfaces and transitions. The relationship between parts is introduced through the use of assembly

drawings. AutoCAD is used for all drawings. Prerequisite(s): MCDESG-102 and CIVIL-102.

MCDESG-106 Credits: 3

Advanced Engineering Graphics

This course focuses on advanced engineering graphics concepts utilizing SolidWorks instruction and includes advanced detailing of parts and assemblies bill of materials, parametric equations, tables and spreadsheets. This course will emphasize geometric dimensioning and tolerancing (GD and T) in the relationship of parts and fit calculations between mating parts such as gears, bushings, keys, retaining rings and fasteners. Prerequisite(s): MCDESG-104, MCDESG-114 and CIVIL-105.

MCDESG-112 Credits: 3

Tool Design

Gives the mechanical design student knowledge in the design of simple jigs and fixtures, gauges and dies, using two- and three-dimensional design. Prerequisite(s): MCDESG-106 and MCDESG-114.

MCDESG-114 Credits: 2

SolidWorks 1

Introduces parametric solid modeling using SolidWorks software. Students focus on part modeling and assembly skills with emphasis on design. Introduces detail drawing with dimensioning and rapid prototyping techniques. Prerequisite(s): CIVIL-102.

MCDESG-116 Credits: 3

Design Elements

This course instructs students on selection of machine elements (components) and their strength analysis. These elements include belts, chains, spur gears, keys, couplings, seals, bearings, clutches, brakes, electric motors and fasteners. Strength of materials concepts and fits are applied to the shafts that carry these elements. Prerequisite(s): MCDESG-106, MCDESG-130 and CIVIL-105.

MCDESG-118 Credits: 3

Kinematics

This course covers the displacement, velocity and acceleration of four bar linkages, slider-cranks, crank-shapers and compound mechanisms using graphical and analytical methods. Also covered are cam displacement diagrams, profiles, gear trains and epicyclics. Prerequisite(s): MCDESG-104, MATH-116 and CIVIL-105.

MCDESG-120 Credits: 1

Basic AutoCAD

Students are introduced to the use of AutoCAD software. The course is designed to be an introductory course enabling students to learn and apply computer-aided drafting (CAD) concepts relative to the preparation of construction drawings. Prerequisite(s): CABMIL-303 or PLUMB-300.

MCDESG-124 Credits: 2

SolidWorks 2

This course introduces advanced solid modeling techniques using SolidWorks software with an emphasis on mechanical design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-114.

MCDESG-125 Credits: 3

Design Problems

This is the capstone course for the Mechanical Design Technology associate degree. Students take the knowledge and skills acquired in other courses – drafting, statics, strength of materials, machine elements, mechanisms – and apply them to a design project. Students select their own project and define the scope, the path of the completion of the projects, perform necessary computations and complete all working drawings. Prerequisite(s): MCDESG-130, MCDESG-106, MCDESG-114, and the completion of or be currently enrolled in MCDESG-116.

MCDESG-130 Credits: 3

Strength of Materials

Students analyze internal stresses on linear members. The course focuses on axial, direct shear, torsional shear and bending stresses. These stresses are also combined using Mohr's circle. Prerequisite(s): MCDESG-160.

MCDESG-131 Credits: 2

SolidWorks Assemblies

Students create more complex assemblies (with bill of material and balloons) and create parts within assemblies; students add parts from the iPart (predrawn) library. Students check interference with an assembly. Models are improved with threaded holes, drafts, shells, lofts. Materials and material properties are added to models. Students create exploded views and animate assemblies. Prerequisite(s): MCDESG-114.

MCDESG-132 Credits: 2

SolidWorks Orthographics

Students expand the orthographic capabilities with section and auxiliary views. More control of the dimension style and title block appearance is covered. Dimension equations and table-driven (Excel) dimensions are introduced. Geometric dimensioning and tolerancing are added to the drawings. Sheet metal function of SolidWorks is introduced. Prerequisite(s): MCDESG-114.

MCDESG-133 Credits: 2

Inventor 1

This course introduces parametric solid modeling using Inventor software. Course is focused on modeling skills for creating parts, assemblies, detail drawings. Rapid prototyping techniques are also introduced. Prerequisite(s): CIVIL-102.

MCDESG – MEDAST

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MCDESG-134 Credits: 2

Inventor 2

This course introduces advanced solid modeling techniques using Inventor software with a focus on design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-133.

MCDESG-135 Credits: 2

PTC Creo (Pro/E) 1

This course introduces parametric solid modeling using PTC Creo (Pro/E). Students will be introduced to modeling skills for creating parts, assemblies, detailed drawings and rapid prototyping techniques. Prerequisite(s): CIVIL-102.

MCDESG-136 Credits: 2

SolidWorks Sheetmetal and Weldments

This course will provide the students with an overview of weldments and sheetmetal applications using SolidWorks. It will cover basic setup, template creation, part creation, part manipulation and drawing creation for both of these areas of application. Exploration of different methodologies will be a main focus. Prerequisite(s): MCDESG-114.

MCDESG-145 Credits: 2

PTC Creo (Pro/E) 2

This course introduces advanced solid modeling techniques using PTC Creo (Pro/E) software with a focus on design. Topics include advanced modeling techniques in sweeps, drafts, blends, shells and surfaces, advanced assembly techniques, sheet metal parts and weldments. Prerequisite(s): MCDESG-135.

MCDESG-160 Credits: 3

Statics

Statics is the study of forces on and in structures that are at rest. Forces, vectors, resultants, moments, couples, equilibrium, free-body diagrams, friction, centroids and centers of gravity, and shear and moment diagrams are covered. Prerequisite(s): Completion of or currently enrolled in MATH-116.

MCDESG-162 Credits: 2

Engineering Materials

This course emphasizes engineering materials and processes used in manufacturing. Fundamentals include the properties and structure of materials for manufactured goods, such as ferrous and nonferrous metals and alloys, plastics, composites and ceramics and the selection of materials for various functions. Casting and form-casting processes, mold casting, powder metallurgy, and metal and nonmetal fabrication processes are included.

MCDESG-163 Credits: 2

Machining Processes

This course introduces machining processes used in manufacturing such as turning, milling, grinding, CNC, water jet cutting, EDM, punch press, welding, drilling, reaming and tapping. The course emphasizes best

practices in mechanical design and design for manufacturability. Labs are integral to the course and expose the student to the various manufacturing processes and practices.

MDRAFT–MECHANICAL DRAFTING

MDRAFT-315 Credits: 1

Manufacturing Methods

Students become familiar with various manufacturing methods in this introductory course. Lectures cover machining, welding, foundry, testing, assembly, forging methods.

MDRAFT-320 Credits: 1

Coordinate Blueprint Reading

Instruction is given in the interpretation of CNC coordinate piece part drawings. Students translate standard engineering drawings into coordinate drawings used in the programming of CNC machine tools. Prerequisite(s): MDRAFT-386.

MDRAFT-335 Credits: 5

Drafting Fundamentals

This course is designed to provide the principles of drafting as well as skill in the use of drafting equipment. Manual drafting equipment is used for sketching and some drawings. Students will use AutoCAD for the majority of drawings. Equipment use, lettering, geometric constructions, sketching, orthographic projection, section views, dimensions (without tolerance) and primary auxiliary views are covered in the course.

MDRAFT-336 Credits: 5

Working Drawings

This course covers tolerances and fits, screw thread representation, structural steel and weldment representation, secondary auxiliary views and pictorial views. AutoCAD is used for all drawings. Prerequisite(s): MDRAFT-335.

MDRAFT-337 Credits: 4

Detail and Assembly Drawings

This course will emphasize Geometric Dimensioning and Tolerancing (GD and T), the relationship between parts (including fits) with detail and assembly drawings. Detailed drawings are used to create assembly drawings including bill of materials. Also covered is the representation of spur and bevel gears, cams and piping, and electronic schematics. AutoCAD (Release 2002) is used for all drawings. Prerequisite(s): MDRAFT-335.

MDRAFT-338 Credits: 4

Tool Design Problems

Gives the mechanical drafter some knowledge in design of simple jigs, fixtures, gauges, dies. It also covers the development of ruled surfaces and intersection of ruled surfaces, and introduces the revision of drawings. AutoCAD is used for all drawings. Prerequisite(s): MDRAFT-337.

MDRAFT-340 Credits: 2

Applied Mechanics

This course is designed to introduce students to basic mechanical calculations. Students study such topics as forces, momentum, work, energy, angular motion, centroids and moments. Prerequisite(s): MATH-308.

MDRAFT-385 Credits: 1

Machine Blueprint Reading 1

This course covers the basic principles essential for visualization, and training in the interpretation of blueprints and freehand sketches of simpler machine parts. Emphasis is placed upon orthographic projection principles and pictorial drawing.

MDRAFT-386 Credits: 1

Machine Blueprint Reading 2

Instruction is offered in the interpretation of blueprints that show job procedure methods and their relation to drafting. Attention is given to representations of common machine processes, special forms of dimensioning, sections, and other advanced drafting and design principles. Prerequisite(s): MDRAFT-385.

MEDAST–MEDICAL ASSISTANT

MEDAST-301 Credits: 2

Medical Assistant Administrative Procedures

This course introduces students to office management and business administration in the medical office. The student learns to schedule appointments; perform filing, record keeping, telephone and reception duties; communicate effectively with patients and other medical office staff; and keep an inventory of supplies. Students apply introductory medical coding skills and managed care terminology. Prerequisite(s): Admission to Medical Assistant program (31-509-1) and completion of or currently enrolled in HEALTH-107.

MEDAST-302 Credits: 3

Human Body in Health and Disease

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize the causes, signs and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. Prerequisite(s): HEALTH-101.

MEDAST-303 Credits: 2

Medical Assistant Lab Procedures 1

Introduces students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform routine laboratory procedures typically performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology and urinalysis testing. Prerequisite(s): Admission to the Medical Assistant program (31-509-1).

MEDAST-304

Credits: 4

Medical Assistant Clinical Procedures 1

Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery, and patient preparation for routine and specialty exams in the ambulatory care setting. Prerequisite(s): HEALTH-101.

MEDAST-305

Credits: 2

Medical Assistant Laboratory Procedures 2

Prepares student to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology and chemistry laboratory procedures. Prerequisite(s): MEDAST-303 or CLABT-303.

MEDAST-306

Credits: 3

Medical Assistant Clinical Procedures 2

Prepares students to perform laboratory procedures commonly performed by medical assistants in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology and chemistry laboratory procedures. Prerequisite(s): MEDAST-304.

MEDAST-307

Credits: 2

Medical Office Insurance and Finance

Introduces student to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance-related duties. Prerequisite(s): MEDAST-302; student must be admitted to the Medical Assistant program (31-509-1).

MEDAST-309

Credits: 2

Medical Law, Ethics and Professionalism

Prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of medical records, perform risk management procedures and examine legal and bioethical issues. Prerequisite(s): Student must be admitted to Medical Assistant or Medical Interpreter (31-509-1 or 30-538-1) programs and instructor consent required.

MEDAST-310

Credits: 3

Medical Assistant Practicum

Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual patient care settings. Students perform medical assistant administrative, clinical and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. Current CPR and first aid certificate required. Prerequisite(s): HEALTH-101, MEDAST-301, MEDAST-302, MEDAST-306, and MEDAST-303 or CLABT-303.

MEDINT–MEDICAL INTERPRETING

MEDINT-101

Credits: 3

Cultural Awareness

Course focus is to recognize, respect and accept differences in customs, beliefs and behaviors. Learners will examine people's specific differences and learn to respond from a variety of cultures.

MEDINT-102

Credits: 1

Spanish Regionalisms/English Variants

Students will explore words and expressions utilized in different countries as they relate to health, work and everyday living. Cultural ethnic background, historical and immigration factors are also examined.

MEDINT-103

Credits: 3

Introduction to Medical Interpretation

This course introduces the professions of translation and interpretation. The different types of translation and interpretation are explored. Actual translations will be done in class, as well as interpretation exercises. The language industry will be discussed, which includes freelance translation and interpretation. Comprehension assessment done during the class will determine the learner's competency in both working languages. Prerequisite(s): Admission to the Medical Interpreter (30-538-1) program.

MEDINT-104

Credits: 3

Applied Medical Interpretation 1

Develop interpreting skills needed within the healthcare environment. Learning centers around general information on healthcare and the healthcare system, functions within hospital departments, healthcare procedures and the terms needed for interaction in the healthcare environment. Culture in interpreting and communication skills for advocacy analyzed.

MEDINT-105

Credits: 3

Medical Language Interpretation 2

Continue to develop accurate interpreting skills through practice and analysis. Simultaneous interpretation, managing communication, documentation, legal boundaries and interpreting in healthcare specialty areas are emphasized.

MEDINT-106

Credits: 2

Introduction to Medical Translation

Fundamental overview of the intricacies of converting texts from one language to another within the context of healthcare services. Coursework includes analysis and comprehension of English or Spanish source texts and the correct construction of writing in target languages. Explore selected materials, including patient information, medical journal articles and medico-legal documents, and use sources available to medical translators.

MEDINT-107

Credits: 4

Bilingual Medical Terminology

This course delineates a detailed analysis and application of medical terms in English and Spanish. It offers the competencies required to meet or exceed the demands of medical interpreters and bilingual personnel within our nation's healthcare systems as they work with patients of limited English proficiency.

MEDINT-108

Credits: 2

Ethics and Standards for Medical Interpreters

This course delineates a critical overview of the applied ethics, risk management and legal practices found at local and national levels within healthcare organizations. It delineates the scope of service that must be observed by medical interpreters and bilingual personnel while working with patients of limited English proficiency.

MEDINT-110

Credits: 2

Applied Medical Interpretation 2

Continue to develop accurate interpreting skills through practice and analysis. Simultaneous interpretation, managing communication, documentation, legal boundaries and interpreting in healthcare specialty areas are emphasized.

MEDINT-111

Credits: 1

Applied Medical Interpretation 3

Through a variety of experiences such as job shadowing, role playing and practice, this course provides students with entry-level experiences in interpreting skills. Expands professional insights as students share and analyze fieldwork experiences. Prerequisite(s): Completion of or currently enrolled in MEDINT-110.

MEDINT-112

Credits: 3

Dual Language Enhancement for Healthcare Providers

This course highlights fundamental skills of written and oral language for healthcare professionals. Coursework includes composition, public speech and reading comprehension in the English and Spanish language. Prerequisite(s): Admission to the Medical Interpreter (30-538-1) program.

MEET–MEETINGS/HOSPITALITY

MEET-151

Credits: 3

Introduction to Hospitality/Tourism

Introduces the various components of the travel services industry, including basic terminologies and tourism vocabulary. The course provides a general orientation to the program and a survey of travel career opportunities. Students learn to integrate current knowledge with ongoing events, and trends of the travel and tourism industry.

MEET-178

Credits: 3

Meeting and Convention Planning

This course introduces students to the meetings industry, including promotional activities, negotiating for meeting services, convention market salesmanship, customer service and convention servicing. Course content includes a study of the planning, marketing, execution and follow-up of meetings, conferences, conventions and package promotions. Facilities and event planning, as well as convention methods and techniques, are explored in-depth. Prerequisite(s): MEET-180.

MEET-180

Credits: 3

Registration and Housing Logistics

This course enables the students to identify and develop tools that allow attendees to have a seamless meeting experience. One critical tool the students will learn in this course is to design a functional registration process. Students will also develop a housing process by creating rooming lists, coordinating the housing logistics, and managing sleeping guest rooms from blocks. Prerequisite(s): MEET-181.

MEET-181

Credits: 3

Exposition/Special Event Management

This course focuses on the planning of special events of all types including expositions, meetings, conventions, trade shows, retail events, festivals and nonprofit events in the hospitality and event management industry. Emphasis is placed on the methodology of event planning including theme setting, building the target sponsorship, contracts, negotiations, site selections, planning event specifications and working with budgets. Prerequisite(s): MEET-151.

MEET-184

Credits: 3

Negotiation/Risk Management

This course focuses on the art and science of negotiations, crisis planning and risk management, and contract and legal issues in the meetings industry. Students learn to identify issues that are negotiable, the steps in the negotiation process and commonly used negotiation techniques. The class also focuses on basic contract provisions and the key clauses of a facility contract, as well as the unique elements and differences of hotel and convention center contracts. Prerequisite(s): MEET-180.

MGTDEV—MANAGEMENT/ SUPERVISION AND LEADERSHIP DEVELOPMENT

MGTDEV-132

Credits: 3

Six Sigma Techniques

This course provides students with the skills and tools to collect and analyze data to solve problems, improve and control processes, and implement solutions within an organization. An emphasis will be placed

upon the use of statistical techniques to create and implement a data collection plan and select solutions.

MGTDEV-134

Credits: 3

Legal Issues for Supervisors

Students apply the skills and tools necessary for supervisors to effectively function in today's legal work environment. Each student will demonstrate the application of legal practices in both union and nonunion environments, the analysis of the impact of U.S. employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring and firing process, dealing with harassment issues, privacy issues, and summarizing legal issues facing supervisors.

MGTDEV-164

Credits: 3

Personal Skills for Supervisors

In this course, students apply the skills and tools necessary to deal with time management, stress and related challenges for a supervisor. Each student demonstrates application of time management techniques, personal planning, continuous learning, valuing rights and responsibilities of others, effective communication, assertiveness and dealing effectively with stress.

MGTDEV-188

Credits: 3

Project Management

Students will apply the skills and tools necessary to design, implement and evaluate formal projects. Each student demonstrates the application of the role of project management, develops a project proposal, uses relevant software, works with project teams, sequences tasks, charts progress, and deals with variations, budgets and resources, implementation and assessment.

MGTDEV-189

Credits: 3

Team-Building and Problem-Solving

In this course, students apply the skills and tools necessary to facilitate problem-solving in a team environment. Each student demonstrates the application of the benefits and challenges of group work, including necessary roles in a team, stages of team development, different approaches to problem-solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation and evaluation.

MGTDEV-190

Credits: 3

Leadership Development

In this course, students apply the skills and tools necessary to fulfill his/her role as a modern leader. Each student demonstrates the application of evaluating leadership effectiveness and organization requirements, including individual and group motivation strategies, implementing the mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power,

facilitating employee development, coaching employees, managing change and effective conflict resolution.

MGTDEV-191

Credits: 3

Supervision

In this course, students apply the skills and tools necessary to perform the functions of a frontline leader. Each student demonstrates the application of strategies to transition to a contemporary supervisory role including day-to-day operations, analysis, delegation, controlling, staffing, leadership, problem-solving, team skills, motivation and training.

MGTDEV-192

Credits: 3

Managing for Quality

Students will apply the skills and tools necessary to implement and maintain a continuous improvement environment. Each student demonstrates the application of a personal philosophy of quality, including identifying all stakeholder relationships, meeting/exceeding customer expectations, having a systems-focused approach, using appropriate models and tools, managing a quality improvement project, and measuring the effectiveness of the continuous improvement activities.

MGTDEV-193

Credits: 3

Human Resource Management

In this course, students apply the skills and tools necessary to effectively value and apply employees' abilities and needs to organization goals. Each student demonstrates the application of the various functions performed in contemporary human resources management, including impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies and procedures, training, performance management, employee counseling and development and effective use of compensation and benefit strategies.

MGTDEV-195

Credits: 3

Managerial Communications

In this course, students apply the skills and tools necessary to effectively deliver management messages in a written and oral format. Each student demonstrates the application of analyzing the communication situation, including planning and preparing the message; developing persuasive, informational and negative messages in written and oral formats; demonstrating skills in basic writing mechanics and English grammar; demonstrating effective delivery of oral presentations; incorporating visual aids; and showing sensitivity to diverse audiences.

MGTDEV-196

Credits: 3

Recruiting and Selection

In this course, students will learn the importance of effective recruitment and selection processes as related to organizational effectiveness, sustainability and competitive advantage. Students

will gain an understanding of the role of human resource management in strategic planning (specifically as it relates or links to employment and workforce planning). Emphasis will be placed on the recruitment process, recruitment budget and critical steps in the selection process, selection assessments, interviewing and compliance with state and federal employment laws, regulatory agencies and internal company policies.

MKTG–MARKETING

MKTG-102 Credits: 3

Marketing Principles

This course covers the study of the marketing process as it relates to the problems and policies of the profitable operation of a business enterprise. Special attention is given to the role and significance of distribution channels, evaluation of consumer needs, price determination, promotional and sales strategy, and government regulations.

MKTG-104 Credits: 3

Selling Principles

The philosophy of salesmanship is introduced through learning to understand the societal role of salespersons and human behaviors, as well as to sell ideas, products, services and self. Students prepare sales presentations that include the use of computer graphics, and practice selling techniques while building self-confidence.

MKTG-106 Credits: 3

Retail Management

This introductory course covers store-based retailing, electronic and non-store retailing, retail marketing strategies, managing a store, buying, financial plans and store operations. MS Excel is used in the course. Prerequisite(s): MKTG-102.

MKTG-107 Credits: 3

Customer Service Management

Consumer and business-to-business service initiatives are examined, beginning with the skills needed to become a good service provider, and examining the managerial aspects of service. Measuring the effectiveness of service initiatives relative to profitability for an organization will be analyzed.

MKTG-109 Credits: 3

Textiles

This course is an introduction to textiles, with major emphasis on finished fabrics. Studies are made of fibers, yarns, fabric construction, coloration, finishes, care, legal aspects and terminology as they relate to the buying, selling and promotion of merchandise. Students assemble a swatch kit of sample fabrics, practice dyeing and printing fabrics, do performance tests and may experiment with stain removal.

MKTG-119 Credits: 3

Visual Merchandising

The proper use of equipment, signage and lighting for different display areas is covered. Students construct flying, case, wall and mannequin displays and study planograms and store planning, floor layout, store fixturing, display locations and merchandise presentation.

MKTG-124 Credits: 3

Apparel Marketing

Merchandising fashion goods – men's, women's, children's apparel and accessories – is studied. Current trends in each classification of goods are discussed. Continuous review of retailers' trade papers emphasizes the current aspects of fashion merchandising and local applications are cited. The process of merchandise creation, from designer inception to consumer, is examined.

MKTG-125 Credits: 3

Advertising

Students will study the principles of advertising in relation to the overall marketing process. The course includes an in-depth examination of all the major mass media used in the communication process and the development of an advertising plan including situation analysis, advertising objectives, media strategies/tactics and creative strategies/executions. Prerequisite(s): MKTG-102 or TV-101.

MKTG-129 Credits: 3

Advertising Campaign Strategies

The elements and principles of writing advertising copy for both print and broadcast advertisements are studied and applied. Major emphasis is on the creation of copy to solve various advertising problems. Students compile written materials for a portfolio. Prerequisite(s): MKTG-125.

MKTG-134 Credits: 3

IMC Management

Introduces students to essential concepts and practices of Integrated Marketing Communication (IMC), including advertising, public relations, sales promotion, event marketing and sponsorships. This course also will provide students with a solid understanding of organizational communication needs, the tools that are used in IMC, and how to plan and implement IMC programs to achieve marketing communications objectives. Prerequisite(s): MKTG-125.

MKTG-140 Credits: 3

Fashion Analysis

Students learn and apply creative talents in the design environment. Through interpreting the elements and principles of design, color, style, details, silhouette and trend influences, students will be able to interpret and analyze fashion products.

MKTG-144 Credits: 3

Project Parameters and Proposals

This course focuses on the importance of developing and facilitating client communications to ensure successful project delivery. Emphasis will be placed on meeting and exceeding client expectations through the construction of documentation and procedures to guide project development and execution, keeping clients educated and informed throughout projects.

MKTG-145 Credits: 3

Special Event Management

This course focuses on the planning of special events of all types including meetings, conventions, trade shows, retail events, festivals and non-profit events. Emphasis is placed on the methodology of event planning including theme setting, building the target, sponsorships, contracts, negotiations, site selections, planning event specifications and working with budgets.

MKTG-149 Credits: 3

Practical Application Workshop

This course focuses on the importance of delivering a project to a client in accordance with industry expectations, standards and deadlines. Emphasis will be placed on immersion into the agency-client experience. Prerequisite(s): MKTG-144.

MKTG-151 Credits: 1

Business Career Management

This course prepares business workers for managing their career in a positive direction. It stresses the importance of setting progressive career goals, developing personal traits for career and life success, and implementing career management strategies that guide an individual's career planning process. The course focuses on understanding one's interests, values, skills and lifestyle preferences; and employing effective job search strategies, including developing effective résumé writing and interviewing skills. Personal skills that contribute to career success are highlighted, including developing a winning attitude and other positive work behaviors, practicing business etiquette and creating a professional image.

MKTG-160 Credits: 3

Sales Management

This course is primarily concerned with administration and management of an outside sales force and its activities. The course includes discussions and programs on recruiting, selecting, training, routing, supervising, paying and motivating the sales force. Computer spreadsheets are used for budgeting and sales forecasting.

MKTG – MUSIC

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

MKTG-166 Credits: 3

Computer Applications in Marketing

Students in this course use standard and proprietary software in marketing applications, such as new business development, sales territory management, sales proposals and sales presentations. Prerequisite(s): MKTG-102, MKTG-104.

MKTG-173 Credits: 3

Marketing Research

Marketing research is a systematic process for solving marketing problems and assessing new opportunities. This process includes problem recognition and definition; research design, methods and sampling; data collection and analysis; and communication of findings and recommendations.

MKTG-174 Credits: 3

Marketing Management

Through the use of computers and hands-on activities, students learn to access, manipulate and analyze marketing data for decision-making. Concepts of information systems design are also examined. Proficiency is demonstrated by completion of a major project.

MKTG-175 Credits: 1

Marketing Internship 1

This is a cooperative training program that allows students to observe and apply, in a practical manner, the principles and techniques studied in the Marketing Management program. A minimum of 144 hours is worked at an approved training station, or equivalent experience is attained through an instructor-approved field project. Prerequisite(s): MKTG-151.

MKTG-176 Credits: 1

Marketing Internship 2

This course continues the hands-on training program begun in Marketing Internship 1. Prerequisite(s): MKTG-175.

MKTG-185 Credits: 3

Negotiation Skills for Business

This course is designed to provide students with the content and skills associated with successful negotiation. These skills are important in dealing with suppliers, salespeople, purchasers, government officials and others. The course uses case studies, role-playing, software, database searching and lecture/discussion to provide a hands-on approach.

MKTG-196 Credits: 1

Marketing Fundamentals 1

Examines the value of marketing and explores basic marketing strategies. Students learn how to analyze the marketing environment, evaluate information through the market research process, and differentiate between consumer and business markets. The course prepares students for Marketing Fundamentals 2.

MKTG-197 Credits: 1

Marketing Fundamentals 2

This course examines the marketing mix. Students learn how to analyze segmenting, targeting and market position, develop product development and promotion strategies, determine supply chain and logistics management strategies, and explore pricing for profit and customer value. The course prepares students for Marketing Fundamentals 3. Prerequisite(s): MKTG-196.

MKTG-198 Credits: 1

Marketing Fundamentals 3

Examines brand strategies and how to respond to customers. Students learn how to manage customer relationships, explore social responsibility and sustainability, and measure marketing performance. It is the last of the three Marketing Fundamentals courses that combine to give the student a strong marketing principles foundation. Prerequisite(s): MKTG-197.

MLABT–MEDICAL/CLINICAL LABORATORY TECHNICIAN

MLABT-161 Credits: 1

Computer Applications for the Medical Laboratory

In this course, students learn basic computer skills used in the clinical laboratory. Students use the internet and database software to become familiar with clinical laboratory computer functions. Prerequisite(s): Must be admitted to the Phlebotomy program (30-513-1) and completion of or concurrent enrollment in HEALTH-107, CLABT-110, CLABT-111.

MLABT-166 Credits: 3

Phlebotomy Clinical Experiences

This clinical course provides 120 hours of the practical application of principles and techniques of phlebotomy. Students observe and perform routine phlebotomy and processing tasks in affiliating phlebotomy facilities. Prerequisite(s): Consent is required to enroll in this course.

MLABT-190 Credits: 2

Medical Laboratory Diagnostic Services

This course introduces students to medical laboratory nonclient duties related to various diagnostic areas, client handling skills, assistance in setting up clients for diagnostic procedures, and documentation skills related to the diagnostic procedures. Basic anatomy and physiology, and relevant medical terminology and abbreviations are included.

MTLGY–METALLURGY

MTLGY-301 Credits: 1

Basic Heat Treatment of Metals

This course is designed to provide information related to steel types, alloying elements and microstructure as they relate to the heat treatment of steel. Lab work includes

heat treating (hardening, tempering, normalizing and annealing), hardness testing and tensile testing.

MTLGY-321 Credits: 1

Metallurgy 1

This course gives an introduction to metals commonly used to manufacture products. It describes the properties and applications of steels, cast irons, aluminum alloys and other common nonferrous metals. It covers the AISI/SAE specifications for steel and common nonferrous metals, including aluminum and copper alloys. Lab work includes hardness testing, tensile testing and common heat treatments used with steel.

MTLGY-350 Credits: 1

Materials of Construction: Ferrous

This course deals with the extraction of iron from iron ore and the processing of iron into cast irons, steels, stainless steels and alloy steels that are used in all industry and manufacturing processes. It also describes nonferrous metals and alloys, as well as plastics.

MUSIC

MUSIC-101 Credits: 2

Music Business

This course is designed to develop insight into many areas of the music-business world including the recording industry, record labels, copyrights, performing, managers, producers, contracts, songwriting, music publishing, print publishing, promotion, business planning, career planning, website construction and much more.

MUSIC-103 Credits: 1

Major Instrument 1

Emphasis is placed on individualized instruction on one's major instrument with course emphasis to include reading, developing musicality and improvisation. Choice of sections: guitar, bass, reeds, brass or percussion.

MUSIC-104 Credits: 1

Major Instrument 2

Individualized instruction at the intermediate level is given on the major instrument, with emphasis on reading, developing musicality and improvisation. Choice of sections: guitar, bass, reeds, brass or percussion. Prerequisite(s): MUSIC-103.

MUSIC-105 Credits: 1

Major Instrument 3

This is an early advanced-level course designed to develop specific performance skills in all styles of music with an emphasis to include reading, musicality and improvisation. Student's choice of sections are: guitar, bass, reeds, brass, percussion, or voice. Prerequisite(s): MUSIC-104, MUSIC-178 or MUSIC-193.

MUSIC-106 Credits: 1

Major Instrument 4

This is an advanced-level course designed to develop specific performance skills in all styles of music with emphasis to include reading, musicality and improvisation. Student's choice of sections are: guitar, bass, reeds, brass, percussion or voice. Prerequisite(s): MUSIC-105.

MUSIC-107 Credits: 1

Songwriting

This class is designed for songwriters of all levels, from beginners to advanced. Students will learn to develop their skills in the areas of melody, lyrics, harmony and song structure. Students will analyze songs of different styles, as well as work on their original works. Every style of songwriting is valid and welcomed in this course. Prerequisite(s): MUSIC-150.

MUSIC-108 Credits: 3

Film Scoring 1

This is a lecture/survey class covering four areas: the history of film scoring, the production or process of film scoring, creating the score and the business details of film scoring.

MUSIC-109 Credits: 3

Film Scoring 2

This lecture/lab class explores practicalities of composing music for the visual media, including spotting, thematic branding, tempo mapping, developing the grand concept, functional scoring and business opportunities. Prerequisite(s): MUSIC-108.

MUSIC-111 Credits: 2

Music Business 2

This course is a hands-on lab course that will spotlight many aspects of the music business. As a continuation of MUSIC-101 (Music Business), this course will focus on music marketing, musician image development, promoting acts, music retailing, getting your own business set up for sales, negotiation skills, goal setting, leadership skills, setting up a performance rights publisher and writer account, advanced music licensing concepts, intellectual property, music business law, international music business, digital music technologies, the iTunes business model, the impact of technologies on the music business, the future of the music business and much more. Students will assist their peers in the ensemble classes by promoting and producing the MATC Concert Series, giving the learner experience in production and promotion. The course will feature guest speakers from the music industry and a field trip to a music publishing company. Prerequisite(s): MUSIC-101.

MUSIC-113 Credits: 1

Introduction to Music Software

This is a lab introducing the basics of software programs Finale, Logic and Pro Tools in music composition, music production and audio recording, focusing on the recording and manipulating midi and audio.

MUSIC-118 Credits: 3

Music Analysis

This class will focus on the basic elements of music: melody, harmony, texture, timbre, expression and form. Through analysis of all these elements, students will come to better understand and recognize the distinct features of music from various periods and styles of the Western culture from the 1500s to the present. The class will emphasize the understanding, recognition and appreciation of various musical styles to better understand the music of the present and future, broadening one's basis of acceptance as to what constitutes music, maintaining and developing an openness to new and different approaches and styles of music or ideas that are divergent from one's own, and becoming aware of environmental influences on music such as social, political and cultural forces. The class will include lecture, analysis, guided listening and presentation. Prerequisite(s): MUSIC-150.

MUSIC-119 Credits: 1

Music Ensemble 4

A continuation of Combo 1 with the continued study and performance of improvisation, reading music notation, ear training, and reading chord charts and lead sheets. Performance is on the intermediate to advanced level. Prerequisite(s): MUSIC-141.

MUSIC-120 Credits: 1

Choir 2

Students develop vocal skills, learn basic note reading techniques, and learn how to sing in harmony with others in a choral group that sings a variety of vocal styles such as gospel, jazz, classical and pop. Choir 2 is open to all MATC students and especially to anyone who would enjoy choral singing.

MUSIC-125 Credits: 1

Music Studio Teaching Methods

Includes the study of various teaching methods and learning styles, and their application to studio one-on-one instruction for various instruments and voice. Materials and techniques, performance practices and business aspects of studio management also are covered. Class includes lecture, demonstration/presentation and lesson observation. Prerequisite(s): MUSIC-152.

MUSIC-126 Credits: 1

Percussion Ensemble

This course is specifically geared to performing percussion music. It is designed to explore the music and techniques of playing the many styles and instruments

of world and classical percussion. Areas of study will include, but not be limited to: Brazilian, African and Afro-Cuban music, as well as classic American compositions. The course will focus on reading, interpretation improvisation, music theory and technique. Learners will perform on many percussion instruments and become skilled at functioning in an ensemble. The Percussion Ensemble will be prepared to perform at MATC Concert Series alongside music ensembles.

MUSIC-127 Credits: 1

Drum Lab

This is a course designed to meet the needs of the beginning percussionist, as well as the student interested in an introduction to stick and hand drumming. Focus is on music reading, rhythmic development, technique and improvisation. Students will obtain the basic knowledge of the instrument to prepare for Major Instrument Percussion and Percussion Ensemble class.

MUSIC-141 Credits: 1

Music Ensemble 3

Students will perform in a musical group. Participants will continue to advance their musical performance skills. Emphasis is placed on reading music notation, reading chord charts and lead sheets, improvisation and ear training. Prerequisite(s): MUSIC-163.

MUSIC-148 Credits: 2

Music Fundamentals 1

This course is an introduction to the building blocks of music: reading, notation, keys, scales and chords.

MUSIC-150 Credits: 4

Music Theory

This introductory course presents fundamental music theory. The following topics are presented: the study of intervals; major and minor tonality; scale construction; diatonic triads; harmonic function; figured bass, four-voice chorale; voice leading and chord voicing; figured brass, chord inversion; tonal and structural organization in music; seventh chords and simple/compound meter. This class uses lecture, workbook exercises, sight singing and dictation.

MUSIC-151 Credits: 4

Music Harmony

This course involves the application of the knowledge acquired in Music Theory. Students study the harmonization of a melody; diatonic 7th chords and their inversions; modulation; non-harmonic tones; secondary harmonic relationships; diminished 7th chords; construction of 9th, 11th and 13th structures; harmonic substitutions; and quartal harmony. Prerequisite(s): MUSIC-150.

MUSIC-152 Credits: 3

Composition

Students learn to write original compositions for commercial and artistic purposes (film, radio, concert, etc.). Compositional styles covered include classical, jazz, pop, Latin and serial composition, radio and television. Prerequisite(s): MUSIC-151.

MUSIC-153 Credits: 3

Music Technology

Students compose, orchestrate and record in various musical styles using computers, digital keyboards, sequencing and music notation software. Prerequisite(s): MUSIC-152.

MUSIC-154 Credits: 3

Techniques of Sound Recording

Studio recording is the focus of this course. The increasing use of electronic amplifying/recording equipment in the field of music necessitates that the musician have basic knowledge of the hows and whys of sound and recording equipment. Simple repairs and maintenance to discern fidelity and distortion, and fundamentals of sound and electricity, will be presented.

MUSIC-155 Credits: 3

Advanced Technology of Sound Recording

This course builds on the knowledge attained in MUSIC-154. Emphasis is on creating stereo and surround sound, and mixing and mastering. Prerequisite(s): MUSIC-154.

MUSIC-157 Credits: 3

Recording Live Concerts

This is a lecture/lab for the audio engineer that teaches the elements of professionalism, and the technical aspects of signal flow, microphone selection, and placement and mixing specifically pertaining to the live music environment.

MUSIC-162 Credits: 1

Music Ensemble 1

Students have the opportunity to learn the various styles of music and how to reproduce them. Participation in this class will give the student valuable practical experience in reading music notation, reading chord charts and lead sheets, improvisation, and learning music in the confines of a musical ensemble in order to become more skilled to perform professionally.

MUSIC-163 Credits: 1

Music Ensemble 2

A continuation of MUSIC-162 with continued study and performance of reading music notation, reading chord charts, improvisation and learning music in the confines of a musical ensemble. Performance is on the intermediate to advanced level. Prerequisite(s): MUSIC-162.

MUSIC-167 Credits: 1

Improvisation 1

The objective of this course is to begin to develop abilities in jazz improvisation through the study of scale/chord

relationships and jazz solo vocabulary. The course involves the study of theoretical concepts, as well as practice and performance on the student's chosen instrument. Prerequisite(s): MUSIC-151.

MUSIC-168 Credits: 1

Improvisation 2

A continuation of MUSIC-167, the intent of this course is to provide students with more advanced training in jazz improvisation through the study of scale/chord relationships and jazz solo vocabulary. The course involves the study of theoretical concepts, as well as practice and performance on the student's chosen instrument. Prerequisite(s): MUSIC-167.

MUSIC-174 Credits: 2

Ear Training 1

This class will emphasize the ability to accurately recognize melodic, harmonic and rhythmic musical sounds. This will be done through sight singing, dictation, and transcription and incorporation of theory fundamentals. Prerequisite(s): MUSIC-151.

MUSIC-175 Credits: 3

Music Reading

This course is designed to provide students with the ability to read standard music notation and play music on their primary instrument. Instruction begins with the fundamental tools and terminology of music notation. It moves through simple melodies in simple rhythms and meters, and progresses to longer and more difficult melodies in more difficult rhythms and compound meters.

MUSIC-177 Credits: 1

Piano Lab 1

A beginning piano class designed to develop skills in music reading and proper keyboard technique, as well as the functional use of scales, chords, transposition and other elements of music theory. Taught in a group class setting on Roland digital pianos; elementary to late-elementary level.

MUSIC-178 Credits: 1

Piano Lab 2

A continuation of MUSIC-177, this class is designed to improve skills in music reading and proper keyboard technique, as well as the functional use of scales, chords, transposition and other elements of music theory. Prerequisite(s): MUSIC-177.

MUSIC-180 Credits: 1

Advanced Piano

This course offers individualized instruction for the advanced piano student. Prerequisite(s): MUSIC-178.

MUSIC-184 Credits: 2

Ear Training 2

This course is a continuation of MUSIC-174. This class will emphasize the ability to accurately recognize melodic, harmonic

and rhythmic musical sounds. This will be done through sight singing, dictation and transcription and incorporation of theory fundamentals. Prerequisite(s): MUSIC-174.

MUSIC-185 Credits: 1

Bass Lab 1

This is designed to meet the needs of the beginning bass guitar player. The course will acquaint the student with tuning, parts of the bass guitar and proper playing techniques. Course will also cover the basic skills of reading music in the bass clef. The students will perform simple music examples in class on their instruments.

MUSIC-187 Credits: 1

Guitar Lab 1

Group lessons provide instruction for beginners or guitarists who want to learn to read standard notation, including basic technique, music reading, chording, fundamentals of music theory, effective practice habits, lead sheets and tablature. Students must provide their own guitar.

MUSIC-188 Credits: 1

Guitar Lab 2

This course is a continuation of MUSIC-187. Group lessons provide instruction to improve music reading skills, expand chord vocabulary, scales, understanding chord progressions, finger style guitar basics and bare chords. Students must provide their own guitar. Prerequisite(s): MUSIC-187.

MUSIC-189 Credits: 1

Voice Lab 1

Students learn basic vocal techniques and improve singing ability through solo singing.

MUSIC-190 Credits: 1

Choir 1

Students develop vocal skills, learn basic note reading techniques, and learn how to sing in harmony with others in a choral group that sings a variety of vocal styles such as gospel, jazz, classical and pop. Choir 1 is open to all MATC students and especially to anyone who would enjoy choral singing.

MUSIC-191 Credits: 3

Performance Techniques 1

Students will develop their performance abilities on their particular instrument(s). Solos or ensembles will be formed from the class. Students will learn through lecture, coaching, interactive discussion, preparing selections for performance and performing music and non-music presentations. The class will emphasize learning to prepare adequately for successful performances, working successfully with other musicians, developing ensembles, musical arranging, improving personal technical and musical abilities, proper performance etiquette, professional work ethic and attitude, and refining playing in various styles. Prerequisite(s): MUSIC-163.

MUSIC-192 Credits: 3

Performance Techniques 2

This is a continuation of MUSIC-191. Prerequisite(s): MUSIC-191.

MUSIC-193 Credits: 1

Voice Lab 2

Students continue to develop good vocal techniques through solo singing and they develop skills in sight singing. Prerequisite(s): MUSIC-189.

MUSIC-194 Credits: 1

Honors Ensemble

An advanced performance group created by audition or faculty appointment. This group serves as the flagship performance group representing the department and school in various venues and as a recording group producing CDs in collaboration with music business and recording students. With guidance from the instructor, members of the class are responsible for choosing repertoire, arranging materials, rehearsing, memorizing and performing a minimum of three department concerts per semester. Prerequisite(s): Instructor's consent is required for this course.

MUSIC-205 Credits: 3

Music Appreciation

This course introduces music elements such as rhythm, melody, harmony, texture in vocal and instrumentals forms, to analyze and appreciate music from the 1400s to present, including historical musical periods and contemporary American genres. Composers studied include Pope Gregory, Bach, Mozart, Beethoven, Brahms, Debussy, Copland, Gershwin and Joplin. This course is lecture and guided listening with analysis and discussion. Students will be required to attend concerts, listen to music and write reports.

MUSIC-206 Credits: 3

History of Rock and Pop

This course provides students with a survey of popular American music of the 20th century, tracing the development, evolution and maturation of musical styles, techniques and compositions. Development of analytical listening skills is a course focus.

MUSIC-207 Credits: 3

Jazz History

This course will focus on America's indigenous music – jazz. Course will explore the development of this music over the last 150+ years to present. Course will explore musical, multicultural and historic perspectives, tracing the evolution of the music. Selective listening as well as analysis of rhythmic, melodic, harmonic and form structures will be a course focus. Open elective to all majors.

MUSIC-210 Credits: 3

World Music Sound and Structure

An insightful introduction to major musical traditions of the world. This course will focus on musical sound and structure in the musical genre of sub-Saharan Africa, India, Japan, Latin America and Ireland.

NATSCI–NATURAL SCIENCES

NATSCI-107 Credits: 2

Pathology

General disease processes, specific diseases and causative factors are presented. Clinical features are correlated with pathologic changes and necropsies are discussed. Particular emphasis is placed on diseases that tend to create embalming problems and situations with medico-legal implications. Prerequisite(s): One year of high school chemistry (minimum grade C) or one semester of college chemistry (minimum grade C).

NATSCI-110 Credits: 5

Basic Chemistry

This course is designed to provide the basic chemistry concepts and skills needed in more advanced chemistry courses, or related courses in other fields. This course is a Prepared Learner course and is a prerequisite for college chemistry.

NATSCI-137 Credits: 4

Comprehensive Technical Physics

The areas of mechanics, heat, electricity, magnetism and optics are covered through lecture, demonstration and laboratory work. Empirical relationships are emphasized, incorporating mathematical prerequisites.

NATSCI-149 Credits: 3

Introduction to Geographic Information Systems

Introduction to Geographical Information Systems (GIS) and ArcView V.9.3 mapping software. The student is introduced to spatial analysis topics in a series of hands-on computer laboratory exercises enabling the student to acquire electronic map-making skills. Students complete two instructor-guided semester-long mapping projects.

NATSCI-167 Credits: 3

Science of Technology

This course looks at the many devices we use in our everyday life and shows how they work. In the process, students learn the basic principles of science behind those devices, as well as how they are applied in other common objects. From levers to lasers, copy machines to computers, sensors to solenoids – virtually nothing is off limits in this class. Participants gain an awareness of the vast network of technology around them by exploring the history of technology, how technology affects society, great inventors and their inventions, as well as what the future can hold. When completed, students discover that devices don't work by magic but are carefully designed to take advantage of the behavior of matter and the laws of science. By exploring the world with this approach, students not only learn the basic principles of physics, but develop an understanding and appreciation of the many ways these principles may be applied.

NATSCI-169 Credits: 3

Energy in Nature, Technology and Society

This course provides an introduction to the essential roles of energy in nature and human activity. It is an interdisciplinary general education course intended for all students who desire basic understanding of the forms and applications of energy, and their influence on the development of civilization, geopolitics, economics and our environment. In addition to traditional sources of energy, special emphasis is given to renewable energy. Field trips may be arranged.

NATSCI-172 Credits: 3

Basic Nutritional Science

This course provides an introduction to the science of nutrition. Basics concepts related to digestion and metabolism are presented. The significance of carbohydrates, lipids, proteins and vitamins to the human organism are discussed. The relationship of proper nutrition to selected pathological conditions throughout the human life cycle is presented. The concept of sustainability and environmentally conscious food production is introduced.

NATSCI-177 Credits: 4

General Anatomy and Physiology

This course examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. (This course also provides the foundation to and is prerequisite for NATSCI-179.) Prerequisite(s): Two semesters of high school chemistry or one semester of college chemistry (minimum grade C) and one semester of college English (minimum grade C) or satisfactory MATC placement test score.

NATSCI-179 Credits: 4

Advanced Anatomy and Physiology

Normal human anatomy and physiology are studied with emphasis on interrelationships between form and function at the gross and microscopic levels of organization. Analysis of cellular metabolism, individual components of the nervous, neuro-muscular, cardiovascular and urinary systems. Examines homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Prerequisite(s): NATSCI-177 (minimum grade C).

NATSCI-184 Credits: 3

Plant Biology

This lecture/laboratory course provides students with an in-depth study of the plant kingdom. The content includes, but is not limited to, plant cell anatomy and physiology, plant genetics, plant classification, plant anatomy and physiology, plant responses, plant life cycles and ecology. A survey of viruses, prokaryotes, protista and fungi as they pertain to plants is presented.

NATSCI-186 Credits: 4

Introductory Biochemistry

This course provides students with skills and knowledge of organic and biological chemistry necessary for application within health occupations careers. Emphasis is placed on recognizing structure, physical properties and chemical reactions of organic molecules, body fluids and acids. The course also emphasizes biological functions and relationships to enzymes, proteins, lipids, carbohydrates and DNA. Prerequisite(s): Two semesters of high school chemistry (minimum grade C) or one semester college chemistry (minimum grade C) and one semester college English (minimum grade C) or satisfactory scores on the MATC placement test.

NATSCI-189 Credits: 3

Basic Anatomy

Examines concepts of anatomy and physiology as they relate to health careers. Students correlate anatomical and physiological terminology to all body systems.

NATSCI-197 Credits: 4

Microbiology

Examines microbial structure, metabolism, genetics, growth and the relationship between humans and microorganisms. Addresses disease production, epidemiology, host defense mechanisms and the medical impact of microbes. The course also examines the role of microbes in the environment, industry and biotechnology. Prerequisite(s): NATSCI-177 or NATSCI-201 (minimum grade C).

NATSCI-201 Credits: 4

Anatomy and Physiology 1

This is a general course presenting unifying concepts critical to a basic understanding of the human body. Lectures and laboratory studies use models and dissection of specimens to present integumentary, skeletal, muscular, nervous and endocrine systems. Prerequisite(s): Biology or chemistry, and English: Biology may be satisfied with one year of high school biology or one semester of college biology. Chemistry may be satisfied with one year high school chemistry or one semester of college chemistry. English may be satisfied with one semester of college English or a satisfactory placement test score. All courses must have a minimum grade of C.

NATSCI-202 Credits: 4

Anatomy and Physiology 2

The cardiovascular, respiratory, digestive, urinary and reproductive systems are studied, utilizing lecture and laboratory procedures to complete the study of the anatomy and physiology of the human body. Prerequisite(s): NATSCI-201 (minimum grade C).

NATSCI-207 Credits: 4

General Chemistry

This course provides a foundation in general inorganic chemistry in preparation for a second semester of organic and biochemistry. Specific topics include dimensional analysis, atomic structure, periodic table and properties of elements, compounds, solutions, acids/bases, reactions and equilibrium, oxidation/reduction and introduction to organic chemistry. Prerequisite(s): NATSCI-110 (minimum grade C) or one year of high school chemistry (minimum grade C).

NATSCI-208 Credits: 4

Survey of Biochemistry

This course provides a basis in organic chemistry needed for understanding biochemistry. Topics in biochemistry include structure and functions of carbohydrates, lipids, proteins, enzymes and nucleic acids; protein synthesis and epigenetic controls; carbohydrate metabolism and energy production; metabolism of proteins and of lipids; relation of central metabolism to health. Prerequisite(s): NATSCI-207 (minimum grade C) or NATSCI-186, NATSCI-209 or NATSCI-211 (minimum grade C).

NATSCI-209 Credits: 5

Chemistry for the Health Sciences

This chemistry course is primarily designed for first-year students in health science technologies. Emphasis is placed on practical aspects of inorganic, organic and biochemistry as they relate to bodily processes and functions. Laboratory work reinforces lecture material. Prerequisite(s): One year of high school chemistry (minimum grade C) or one semester of college chemistry (minimum grade C). Also MATH-110 (minimum grade C) or satisfactory score on MATC placement test.

NATSCI-211 Credits: 5

Chemistry 1

This course is a study of the basic principles of modern chemistry correlating atomic structure, theories of chemical bonding and reactivity of matter. Laboratory work is included. Prerequisite(s): One year of high school chemistry or one semester of college chemistry (minimum grade C). Also MATH-200 (minimum grade C) or a satisfactory MATC placement test score.

NATSCI-212 Credits: 5

Chemistry 2

This course is a study of kinetics, equilibria, thermodynamic nucleonics, coordination chemistry, electrochemistry and topics in organic and biochemistry. Qualitative analysis is included in the laboratory course. Prerequisite(s): NATSCI-211 (minimum grade C).

NATSCI-215 Credits: 5

Quantitative Chemical Analysis

This course is a study of the general principles of volumetric and gravimetric analysis, evaluation of analytical data, acidimetry and alkalimetry, redox process, solubility equilibria, complexation titrations, and optical and electrometric methods. Laboratory work is included. Prerequisite(s): NATSCI-212 (minimum grade C).

NATSCI-216 Credits: 5

Instrumental Analysis

Instrumental analysis examines the design, construction and use of modern chemical analytical instruments. Topics included are absorption and emission spectroscopy, gas and liquid chromatography and electrochemical methods. Prerequisite(s): NATSCI-212 (minimum grade C).

NATSCI-217 Credits: 3

Organic Chemistry 1

Lecture topics include nomenclature, structure, characterization, functional groups, preparations and reactions. A survey is made of stereochemistry, polymers and natural organic products. Practical applications of these topics are included in the laboratory work. Prerequisite(s): NATSCI-212 (minimum grade C).

NATSCI-218 Credits: 3

Organic Chemistry 2

A second semester course in Organic Chemistry that builds upon concepts learned in the first semester. Spectroscopy and the chemistry of oxygen-containing compounds are emphasized. Prerequisite(s): NATSCI-217 or CHEMT-117 (minimum grade C).

NATSCI-219 Credits: 2

Organic Chemistry Laboratory 1

Laboratory work focuses on the synthesis and purification of organic compounds illustrating reaction mechanisms. Prerequisite(s): NATSCI-212 (minimum grade C).

NATSCI-220 Credits: 3

Introduction to Nutritional Science

This course is an introductory experience in human nutrition. It is designed to satisfy basic nutritional course requirements for college students entering allied health programs, and provide practical and interesting nutritional information for non-health majors as well. This course provides correct, scientifically based information needed to answer basic questions related to nutrition.

NATSCI-221 Credits: 4

College Physics 1

This is a first-semester physics course to study the principles of mechanics and heat. Calculus is not required for this class. Laboratory work will involve the analysis of data using computers. Prerequisite(s): MATH-202 or MATH 230.

NATSCI-222 Credits: 4

College Physics 2

This is a second-semester physics course to study the principles of electricity, magnetism, light, optics and the basics of modern physics. Lab work will include experiments related to the above topics and data analysis via computer. Calculus is not required. Prerequisite(s): NATSCI-221.

NATSCI-225 Credits: 3

Introductory Astronomy

This introductory course covers the principles, theories and understandings related to astronomy. Topics to be covered include the history of astronomy, telescopes, the earth and the solar systems, the sun as a star and other stars, galaxies and theories of the universe.

NATSCI-226 Credits: 1

Observational Astronomy

This course is designed to provide hands-on experience in the application of the laws of physics to astronomy. Using computers as well as other technological instruments in the field of astronomy, students observe phenomena and experience astronomical events. This class will focus on the identification of the tools of astronomy and their use in solving basic problems in astronomical theory. This laboratory should be taken only in conjunction with, or subsequent to, NATSCI-225.

NATSCI-231 Credits: 3

Physical Science Survey

This course provides an introduction to the basic concepts of physics and chemistry and a short introduction to astronomy, earth science and meteorology to aid the student in understanding the natural world. Topics covered include forces, energy, electricity, basic chemistry, optics, laws of motion, geology, the stars and the atmosphere. Not open for credit to students who have earned credit in, or who are presently enrolled in, both college chemistry and physics.

NATSCI-232 Credits: 3

Earth Science

Introduces students to the fields of geology, meteorology, astronomy and oceanography. It emphasizes humans' continually evolving techniques of exploring both the past and the present world and universe.

NATSCI-233 Credits: 3

Environmental Science

This course will introduce students to basic scientific principles necessary to an understanding of the relationships between mankind and the environment, with special focus placed on the effects of mankind's activities on the environment.

NATSCI-234 Credits: 1

Earth Sciences Laboratory

This laboratory course introduces students to the earth sciences through first-hand activities and exploration. Subject matter differs in different sections. The course may emphasize identifying minerals, rocks and fossils; interpreting and compiling maps (including GIS); observing and forecasting weather conditions; collecting and analyzing environmental data; and/or other earth science topics. Students should consult the instructor or the Physical Science instructional chairperson for this course's specific content. This laboratory should only be taken in conjunction with, or subsequent to, NATSCI-232.

NATSCI-236 Credits: 5

Principles of Biology

This course provides an introduction to the organization of living organisms at the molecular, cellular, organism and ecological levels. Biological principles of inheritance, cytology and metabolism of plants, animals and other organisms will be studied. In addition, an overview of the major organ systems of the human body will be included. Prerequisite(s): ENG-151 or ENG-201 (minimum grade C) or satisfactory MATC placement test score.

NATSCI-237 Credits: 4

Introduction to Biotechnology

This course introduces the basic principles of molecular biology used in biotechnology. Emphasis is on providing students with hands-on experience in areas such as gene expression and regulations, recombinant DNA technology, cloning of genes, isolation and purification of DNA, and agarose gel electrophoresis of DNA. Prerequisite(s): Either two semesters of high school biology or one semester of college biology (minimum grade C). Also, either ENG-151 or ENG-201 (minimum grade C), or satisfactory MATC placement test score.

NATSCI-238 Credits: 5

Molecular Biology Concepts

Class will explore the world of genes and DNA. Topics will include gene regulations, genomics, recombinant DNA technology and genetic engineering. Hands-on experiments will be performed on gene expression, cloning, miniprep, southern hybridization and PCR. Prerequisite(s): NATSCI-237 (minimum grade C).

NATSCI-239 Credits: 5

Cell Biology

This course focuses on basic genetics, genomics and proteomics. Topics covered include: structure and function of chromosomes and genes, the patterns of inheritance, the causes and consequences of mutation, genetic variation, organization of genomes, gene expression at the mRNA and protein levels, microarrays, analyses of genomic and proteomic databases, protein separation and spectrophotometry. Prerequisite(s): NATSCI-237 (minimum grade C).

NATSCI-240 Credits: 3

Survey of Physical Geography

This is the study of Earth's physical environment. This course will introduce the student to physical geography by using Geographic Information Systems (GIS). The course will survey the basic components of physical geography including cartography, the Earth's atmosphere, biosphere and lithosphere. The focus of this course will be practical examples and applications in physical geography.

NATSCI-241 Credits: 4

Pathophysiology: Disease Process

Pathophysiology provides students with an understanding of the relationship between the mechanisms of disease and normal physiology. Topics include alterations in cellular and genetic mechanisms, metabolic abnormalities, fluid and electrolyte imbalance, infection, immunology, and cardiovascular, gastrointestinal, respiratory and neuromuscular dysfunctions. Prerequisite(s): Two semesters of college-level anatomy and physiology (minimum grade C).

NATSCI-242 Credits: 4

Concepts of Science in Health

The focus of this course is to provide a basic understanding of the most recent, scientifically based, personal health information on topics such as aging, stroke, cancer, chemical dependency, nutrition, environmental pollution and weight control. Participants analyze their health-related behaviors and attitudes, and are provided with the concepts needed to improve health and well-being.

NATSCI-243 Credits: 3

Weather Fundamentals

The course assists students whose work and interests require a general knowledge of atmospheric science. Applications of this science appear in agribusiness, health and safety occupations, architectural design, insurance underwriting, environmental control, water resource industries, fabrication of materials (textiles, paint, plastics), physical geography and oceanography.

NATSCI-244 Credits: 1

Weather Fundamentals Laboratory

This laboratory course complements NATSCI-243 (Weather Fundamentals) by providing additional investigations involving real-time data and satellite images, plus a comprehensive range of critical thinking exercises. This laboratory should be taken only in conjunction with NATSCI-243.

NATSCI-245 Credits: 4

General Geology

This introductory geology course emphasizes the earth's dynamic processes as well as its composition, structure and surface features. The laboratory introduces the identification of rocks and minerals and teaches mapping skills. Field trips are included.

NATSCI-246 Credits: 3

Climate Change Fundamentals

This course examines critically our understanding of climate and its causes, the evidence of past and present climate change and models of future climate change, as well as the probable impacts of climate change on society, and implications for future energy resources and the economy.

NATSCI-248 Credits: 3

Current Topics in Natural Science

This course critically examines major topics of current emphasis and their future importance in natural science, such as climate change ("global warming"), natural hazards (earthquakes, volcanoes, tropical storms, floods) and natural resources (water, energy). The subject matter differs in different sections. Students should consult the instructor or Physical Science instructional chairperson for specific content.

NATSCI-251 Credits: 3

Introduction to Geographic Information Systems 1: Status

This course provides an introduction to Geographical Information Systems (GIS) and ArcView v.9.2 mapping software. It introduces the students to spatial analysis topics in a series of 15 hands-on computer laboratory exercises enabling students to acquire electronic map-making skills. Students complete three semester-long, instructor-guided mapping projects. Prerequisite(s): NATSCI-142 or NATSCI-149.

NATSCI-252 Credits: 3

Geographical Information Systems 2: Spatial Analysis

This course introduces students to ArcView Spatial Analyst v.9.2 software module including the basics of ArcView, ArcMap, ArcCatalog and ArcToolbox. Multiple map projects using pre-existing and student-acquired data sets include applications in marketing, natural sciences, government agencies and urban planning agencies. The focus of this course is to learn spatial analysis techniques by understanding, creating and

applying discrete and discontinuous data in raster format. Students should be adept at using ArcMap software before starting the class. Prerequisite(s): NATSCI-251.

NATSCI-253 Credits: 3

GIS 3: 3D Analysis, Geostatistics and Geodatabases

This course introduces students to ArcView 3D Analyst, Geostatistics and Geodatabases v.9.2 software modules including the basics of ArcView, ArcMap, ArcCatalog and ArcToolbox. Multiple map projects using pre-existing and student-acquired data sets include applications in marketing, natural sciences, government agencies and urban planning agencies. The focus of this course is to learn 3D analysis techniques, geostatistical methodologies and geodatabase concepts by understanding, creating and applying discrete and discontinuous data in vector and raster format. Students should be adept at using ArcMap software before starting the class. Prerequisite(s): NATSCI-251.

NATSCI-254 Credits: 3

GIS 4: Global Positioning Systems for Geographical Information Systems

This course introduces advanced learners to Global Positioning Systems software and high-resolution Trimble R 8 GPS instrumentation. Using ESRI's ArcGIS v.9.2 software and Trimble's Pathfinder Office software, students are involved in collecting, synthesizing and analyzing high-resolution GPS data collected in the field. Students learn and gain experience in (1) the preparation methodology and techniques necessary before taking to the field, (2) data instrumentation using Trimble's R8 subcentimeter GPS receiver in the field and (3) the post-processing techniques that will enable them to produce a finished product: a digital map. In addition, students will practice data recording, measure bearing and distances using the ArcMap software. Prerequisite(s): NATSCI-251.

NATSCI-255 Credits: 1

GIS: Business Analyst

Business Analyst is a Geographic Information System software program to be used in conjunction with ESRI ArcGIS 9.2. Using real-time data from web sources, the student will learn to create, edit, manage, analyze and document business territories for market analysis. The user will learn to perform address geocoding and correlate mapping locations to high-resolution aerial images. Students will learn project data management techniques, and how to incorporate business data and/or projects to existing or newly created maps. Learners will create customized reports comparing the number of customers and sales for trade areas, average drive times, routing analysis and market penetration buffer rings. They will learn how to apportion data using hybrid, block appointment and the cascading centroid to analyze boundaries of trade

areas. Students will submit a final project encompassing all concepts. Prerequisite(s): NATSCI-251, NATSCI-142 or NATSCI-149.

NATSCI-260 Credits: 3

Plagues, People and Power

This course covers the history of infectious diseases and their role in human development. The class uses fiction and nonfiction movies and books as resources. Some topics to be covered include smallpox, the plague, leprosy, tuberculosis, AIDS, influenza, syphilis and biological weapons.

NATSCI-261 Credits: 3

Introduction to Pharmacology

Basic principles of drug action are presented in relation to body physiology. Emphasis is placed on drugs affecting the central nervous system. Laboratory exercises are included to support principles of biology, chemistry, anatomy and human physiology.

NATSCI-262 Credits: 3

Energy in Nature, Technology and Society

This course provides an introduction to the essential roles of energy in nature and human activity. It is an interdisciplinary general course intended for all students who desire basic understanding of the forms and applications of energy and their influences on the development of civilization, geopolitics, economics and our environment. In addition to traditional sources of energy, special emphasis is given to renewable energy. Field trips may be arranged.

NATSCI-263 Credits: 4

Environmental Field Studies

Selected geographic areas to study vary from year to year. Various instructional methods are used to match each unique area of study. Areas of past study include Wisconsin geology, Appalachian ecology, Black Hills geology, Grand Canyon ecology and Ozarks ecology.

NATSCI-265 Credits: 3

STEM Applications in Manufacturing

This course covers the STEM applications in technical programs at MATC, especially in manufacturing. It consists of four modules: science (physical and life sciences), technology, mathematics and career awareness.

NATSCI-274 Credits: 4

Calculus-Based Physics 1

This is the first part of a two-part sequence of calculus-based physics for prospective engineering students. Topics covered include theoretical and experimental treatment of motion, material properties, fluids and heat. Prerequisite(s): MATH-232 (minimum grade C).

NATSCI-275 Credits: 4

Calculus-Based Physics 2

This is the second part of a two-part sequence of calculus-based physics. Topics include electricity, magnetism, optics and some modern physics. Prerequisite(s): NATSCI-274 (minimum grade C).

NATSCI-281 Credits: 4

Natural Science Field Studies 1

Glaciers, geysers and the Grand Tetons – this course is a 15-day field study in Glacier, Yellowstone and Grand Teton national parks. Observe and investigate geologic, biologic and ecological processes at work in the parks and surrounding national forests from a holistic science perspective. Collect rocks, minerals, fossils and plants (outside the parks) while learning identification and classification techniques. Recognize ecological systems and landscapes. No science background or other prerequisite required.

NATSCI-282 Credits: 4

Natural Science Field Studies 2

Canyons, cataracts and the Cadillac Desert – this course is a 15-day field study in the Four Corners area of the American Southwest. Observe and investigate geologic, biologic and ecological processes at work in Arches, Bryce Canyon, Zion Canyon and the Grand Canyon national parks and surrounding public lands from a holistic science perspective. Collect rocks, minerals, fossils and plants (outside the parks) while learning identification and classification techniques. Recognize ecological systems and landscapes. No science background or other prerequisite required.

NATSCI-283 Credits: 4

Natural Science Field Studies 3

Redwoods, rivers and rain forests – this course is a 15-day field study in forests, mountains, rivers and beaches of the Pacific Northwest. Observe and investigate geologic, biologic and ecological processes at work in the national parks and surrounding national forests from a holistic science perspective. Collect rocks, minerals, fossils and plants (outside the park) while learning identification and classification techniques. Recognize ecological systems and landscapes. No science background or other prerequisite required.

NATSCI-290 Credits: 1

Biotechnology Seminar

This course will focus on the skills needed to find internships and jobs in the biotechnology industry. It will include speakers from area labs and hiring experts, and addresses topics such as cover letters, résumés and interviewing skills. Prerequisite(s): NATSCI-237.

NATSCI-291 Credits: 1

Internship in Biochemical Science

This course is an eight-week internship for MATC students. It will allow students to explore cutting-edge laboratory research in the biochemical areas. Students will work on a specific lab project during that time in academic and industry labs. Upon completion students will be presenting their work via Power-Point and poster presentations in a symposium. Prerequisite(s): Consent of instructor required.

NATSCI-292 Credits: 1

Lab Techniques in Biochemistry Research

This two-week workshop for high school students will cover basic areas in biochemical, biotechnological and chemical laboratory skills. Students learn about scientific method experimentation, recording and analyzing data. Basic math skills connected with lab techniques will be introduced.

NATSCI-293 Credits: 3

STEM Applications in Biochemical Science

This course introduces high school teachers and counselors to advanced techniques and applications in biochemical sciences. The group will be introduced to the existing and emerging career opportunities in biotechnology and chemical technology. The various STEM programs MATC offers and the transfer programs to four-year colleges available at MATC will be discussed; curriculum includes touring MATC's advanced lab facilities.

NATSCI-331 Credits: 2

Physical Science

This course is intended for non-science students in graphic arts as a general education course in science. The primary goal is to help students understand the basic concepts of physics, chemistry, earth science and astronomy. The primary approach is conceptual rather than mathematical. Topics include Newton's law of motion, electricity, sound, magnetism, light, elements, compounds, acids, world climate, earthquakes, water pollution, stars, planets and comets. Some take-home labs accompany teacher demonstrations to assist in student learning.

NRSAD–NURSING

NRSAD-101 Credits: 2

Nursing Fundamentals

Focuses on basic nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients. Prerequisite(s): Must be admitted to Registered Nursing program (10-543-1).

NRSAD-102 Credits: 3

Nursing Skills

Focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. In addition, the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-103 Credits: 2

Nursing Pharmacology

This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-104 Credits: 2

Nursing: Introduction to Nursing Practice

This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is on performing basic nursing skills, formation of nurse-client relationships, communication, data collection, documentation, medication administration. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-105 Credits: 3

Nursing Health Alterations

This course elaborates upon the basic concepts of health and illness as presented in NRSAD-101. It applies theories of nursing in the care of patients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It will also introduce concepts of leadership and management. Prerequisite(s): Admitted to Registered Nursing program (10-543-1).

NRSAD-106 Credits: 3

Nursing Health Promotion

Focuses on topics related to health promotion for individuals and families throughout the lifespan. Class will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, postpartum, the newborn and the child. Recognizing the spectrum of healthy families, students will discern patterns associated with adaptive and maladaptive behaviors, applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles and stages of development. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-107 Credits: 2

Nursing: Clinical Care Across the Lifespan

This clinical experience applies nursing concepts and therapeutic interventions to patients across the lifespan. It also introduces concepts of teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-108

Credits: 2

Nursing: Introduction to Clinical Management

This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of patients across the lifespan. It also provides an introduction to leadership, management and team building. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-109

Credits: 3

Nursing: Complex Health Alterations 1

Prepares students to provide and evaluate care for patients across the lifespan with alterations in cardiovascular, respiratory, endocrine and hematologic systems, as well as patients with fluid/electrolyte and acid-base imbalance and alterations in comfort. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-110

Credits: 2

Nursing: Mental Health Community Concepts

This course will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families and groups will be addressed across the lifespan. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-111

Credits: 3

Nursing: Intermediate Clinical Practice

This intermediate-level clinical course develops the RN role when working with clients with complex healthcare needs. A focus of the course is developing skills needed for managing multiple clients across the lifespan and setting priorities. Using the nursing process, students gain experience in adapting nursing practice to clients with diverse needs and backgrounds. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-112

Credits: 1

Nursing: Advanced Skills

This course focuses on the development of advanced clinical skills across the lifespan. Content includes advanced intravenous skills, blood product administration, chest tube systems, basic electrocardiogram interpretation and nasogastric/feeding tube insertion. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-113

Credits: 3

Nursing: Complex Health Alterations 2

Prepares the learner to provide and evaluate care for patients across the lifespan with alterations in the immune, neurosensory, musculoskeletal, gastrointestinal,

hepatobiliary, renal/urinary and reproductive systems; shock, burns and trauma. The learner will also focus on management of care for patients with high-risk perinatal conditions and high-risk newborns. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-114

Credits: 2

Nursing: Management Concepts

This course covers nursing management and professional issues related to the role of the registered nurse. Emphasis is placed on preparing for practice as a registered nurse.

NRSAD-115

Credits: 3

Nursing: Advanced Clinical Practice

This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-116

Credits: 2

Nursing: Clinical Transition

This clinical experience integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. The course promotes relatively independent clinical decisions, delegation and working collaboratively with others to achieve client and organizational outcomes. Continued professional development is fostered. Prerequisite(s): Must be admitted to the Registered Nursing program (10-543-1).

NRSAD-182

Credits: 1

Graduate Seminar: NCLEX Review

This course assists graduate nurses to prepare for the NCLEX-RN licensing exam. A comprehensive review of information from all content areas tested on the exam assists students to effectively use critical thinking skills and gain confidence for the exam.

NRSAD-191

Credits: 2

Nursing: Clinical Skill Development

The course focuses on development or enhancement of clinical skills and physical assessment across the lifespan. The course includes review of mathematic calculations and conversions related to clinical skills, skills competencies and physical assessment. In addition, the nursing process, role transition and concept mapping will be presented. Prerequisite(s): Must be admitted to the Practical Nursing LPN-RN Educational Progression program (10-543-10).

NRSNA—NURSING ASSISTANT

NRSNA-300

Credits: 3

Nursing Assistant

This course prepares the student for employment as an entry-level caregiver in healthcare facilities such as hospitals, clinics, nursing homes and home health service. Graduates of the course are eligible to take the National Nurse Aide Assessment Program Examination and gain entry into the Wisconsin Nurse Aide Registry. This program meets all state and federal training requirements and is approved by the Wisconsin State Department of Health and Family Services. Prerequisite(s): Admission to the Nursing Assistant program (30-543-1).

NRSNA-302

Credits: 3

Basic Nursing Assistant

Basic Nursing Assistant is a three-credit diploma program designed to prepare you for employment in hospitals and nursing homes or home health services. Instruction is provided in basic, patient care skills.

NRSPN—PRACTICAL NURSING

NRSPN-301

Credits: 2

Nursing Fundamentals

This course focuses on basic nursing concepts to provide evidenced-based care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients.

NRSPN-302

Credits: 3

Nursing Skills

Focuses on development of evidence-based clinical skills and physical assessment across the lifespan. Content includes mathematical calculations and conversions related to clinical skills. The course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): Must be admitted to Practical Nursing program (31-543-1).

NRSPN-303

Credits: 2

Nursing Pharmacology

This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications.

NRSPN-304

Credits: 2

Nursing: Introduction to Clinical Practice

This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data

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collection, documentation and medication administration. Prerequisite(s): Student must be admitted to the Practical Nursing program (31-543-1).

NRSPN-305 Credits: 3

Nursing Health Alterations

This course elaborates upon the basic concepts of health and illness as presented in NRSPN-301 Nursing Fundamentals. It applies theories of nursing in the care of patients through the lifespan, utilizing problem solving and critical thinking. This course provides an opportunity to study conditions affecting different body systems and apply evidence-based nursing interventions. It also introduces concepts of leadership and management. Prerequisite(s): Must be admitted to Practical Nursing program (31-543-1).

NRSPN-306 Credits: 3

Nursing Health Promotion

This course focuses on topics related to health promotion for individuals and families throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn and the child. Recognizing the spectrum of healthy families we will discern patterns associated with adaptive and maladaptive behaviors, applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles and stages of development. Prerequisite(s): Student must be admitted to the Practical Nursing program (31-543-1).

NRSPN-307 Credits: 2

Nursing: Clinical Care Across the Lifespan

This clinical experience applies nursing concepts and therapeutic interventions to patients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): Must be admitted to the Practical Nursing program (31-543-1).

NRSPN-308 Credits: 2

Nursing: Introduction to Clinical Management

This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of patients across the lifespan. It also provides an introduction to leadership, management and team building. Prerequisite(s): Must be admitted to the Practical Nursing program (31-543-1).

NRSPN-309 Credits: 2

Nursing Foundations

This course is designed to provide a basic framework for understanding nursing practice. General aspects of body structure and function are presented using a body

systems approach. The course includes related medical terminology and an overview of basic disease processes.

NRSPN-310 Credits: 2

Human Growth and Development

This course is designed to introduce students to human growth and development across the lifespan. Theories of growth and development, including appropriate terms and definitions, are presented. These theories are explored beginning with basic genetics, moving through the prenatal stages, neonatal period, infancy, early childhood, toddler and preschool stages, the school-age child, adolescence and late adulthood.

NRSPN-383 Credits: 1

NCLEX Review for Practical Nursing

This course assists graduate practical nurses to prepare for the NCLEX-PN licensing exam. A comprehensive review of information from all content areas tested on the NCLEX exam assists learners to effectively use critical thinking skills and gain confidence for the exam.

NURSAD–NURSING/HEALTH UNIT COORDINATOR

NURSAD-160 Credits: 2

Study Strategies for Health Occupations

This course focuses on creative thinking, brain-based learning principles, information processing and memory strategies, as well as life management skills. Learning strategies are taught to assist learners in integrating and processing technical information in a meaningful way.

NURSAD-161 Credits: 1

Fundamentals of Medication Calculation

This one-credit course introduces the learner to basic math strategies for calculating medication dosages. In a low-anxiety setting, the learner will review basic operations with decimals and fractions. Other topics include measurement systems and conversions and using ratio, proportion and formula methods for dosage calculations.

NURSAD-180 Credits: 1

Nursing: Basic Skills Review

This course will assist students to polish their nursing skills prior to beginning the first-semester lab and clinical courses. The course will focus on personal care and activities of daily living for clients in a hospital or nursing home, and includes basic assessments such as vital signs.

NURSAD-181 Credits: 2

Orientation to Nursing

This course explores nursing as a career as it examines the knowledge, skills and abilities required to be successful. It also explores educational pathways and job opportunities for those wishing to become nurses.

NURSAD-190 Credits: 1

LPN Program Challenge Exam Review

This course assists licensed practical nurses to prepare for the LPN-RN progression challenge exam. A comprehensive review of information from all content areas tested on the exam assists students to effectively use critical thinking skills and gain confidence for the exam.

NURSPN-352 Credits: 5

Entry Into Practice

This course is designed to help the student make the transition into the role of the graduate nurse/employee. Assigned workload increases to more accurately reflect the demands of the actual workplace. Basic supervisory issues and employee management techniques, such as delegation, are introduced. Issues related to personal development, résumé writing and job-seeking techniques are also presented.

OFTECH–OFFICE TECHNOLOGY

OFTECH-101 Credits: 3

Windows and MS Word Keyboard Shortcuts

The students enrolled in this course, using a hands-on approach, will be instructed to manage files using the Microsoft Windows XP Operating System and will also learn to use the Microsoft Word 2007 keyboard shortcuts to improve their techniques using the keyboard.

OFTECH-102 Credits: 3

Office Technologies

This course offers skill-development in the office environment using Windows, Microsoft Office, internet/email, computer concepts and web page development. The office environment includes applications using Word, Excel, Access and PowerPoint, and utilizes several mini simulations to acclimate the student to working in an office. Business etiquette will be discussed and practiced. Prerequisite(s): OFTECH-101.

OFTECH-103 Credits: 1

Keyboard and Keypad

Using a computer, students learn keyboarding using the touch method. Emphasis is placed on correct fingering skills, accuracy and speed. Passing a challenge exam at 35 wpm/three errors/two minutes may be completed in lieu of taking this course. Contact MATC's School of Business for exam information.

OFTECH-112 Credits: 3

Computerized Medical Billing

This course introduces students to principles of computerized medical billing using medical office software. Students must possess medical terminology and accounting competencies. Prerequisite(s): ACCTG-102, completion of or currently enrolled in OFTECH-125 and RBUS-140.

OFTECH-119 Credits: 3

Information Management

The basic principles and procedures of creation, storage, retrieval, retention and disposal of records are studied. The use and importance of electronic filing and micro records are included. Rules for alphabetic, numeric, geographic and subject filing are applied.

OFTECH-122 Credits: 3

Business English Essentials

This course is designed to improve oral and written communication skills. Study of English fundamentals, including parts of speech, agreement, sentence types and plurals and possessives, as well as rules for punctuation, capitalization, number usage, spelling and vocabulary, are emphasized.

OFTECH-123 Credits: 3

Machine Transcription Proofreading and Editing/ Administrative

This course is designed to help the students improve their proofreading and editing skills using hard copy and computerized materials. The course also introduces basic transcription skills, which will require the student to apply proper proofreading and editing techniques. Prerequisite(s): OFTECH-122 (minimum grade C) and OFTECH-133.

OFTECH-124 Credits: 3

Medical Office Terminology 1

This course presents the principles of medical word construction; emphasizes correct medical word spelling, pronunciation and definition; and introduces terminology specific to various body systems.

OFTECH-125 Credits: 3

Medical Office Terminology 2

This course reinforces correct medical word spelling, pronunciation and definition as studied in OFTECH-124. Additional terminology specific to various body systems is introduced. Prerequisite(s): OFTECH-124 (minimum grade C).

OFTECH-128 Credits: 1

MS Word - Part 1

Using MS Word software, students format, type and print documents; edit a document using simple editing features; manipulate multiple-page documents; and create and edit simple tables.

OFTECH-129 Credits: 1

MS Word - Part 2

Students will create Word templates; merge documents; create reports with table of contents, bibliographies, bookmarks and styles; and develop newsletters and on-screen forms. Prerequisite(s): OFTECH-128.

OFTECH-133 Credits: 3

Business Document Production 1

This course is designed to enhance keyboarding skills and to develop basic document formatting techniques while

applying decision-making skills. Students will demonstrate specific document formatting and keying speed competencies. Prerequisite(s): OFTECH-136.

OFTECH-134 Credits: 3

Legal Document Production

Utilizing a microcomputer and software, this course is designed to give students experience in preparing legal documents and correspondence as used in the various legal specialties. Legal vocabulary also will be emphasized in this class. Prerequisite(s): OFTECH-133, RBUS-141.

OFTECH-135 Credits: 3

Medical Document Production

This course is designed to expand the student's medical vocabulary and develop skill in keyboarding, editing, storing and printing of medical documents on microcomputers. Emphasis is placed on speed building and accuracy improvement. Prerequisite(s): OFTECH-122, OFTECH-125 and OFTECH-133.

OFTECH-136 Credits: 1

Keyboarding Skill Development 1

Using microcomputer software, this course is designed to improve keying speed and accuracy utilizing the Cortez Peters method of instruction. Individualized keyboarding drills and rhythm drills, as well as timed writings, are emphasized. Prerequisite(s): OFTECH-103.

OFTECH-137 Credits: 3

Business Document Production 2

Students acquire proficiency in producing documents, editing and composing more complicated business documents, making decisions, following directions and performing realistic office tasks through simulation. Prerequisite(s): OFTECH-133.

OFTECH-142 Credits: 3

Administrative Procedures for the Medical Office

Students apply previously learned skills to complete simulated medical office activities (with a medical focus) in a timely, accurate manner. Developing desirable human relations and decision-making skills is emphasized. Microcomputers are used. Prerequisite(s): OFTECH-125 and completion of or currently registered for OFTECH-135 and RBUS-140.

OFTECH-146 Credits: 1

Keyboarding Skill Development 2

This course is designed for students to improve keyboarding skills utilizing the Cortez Peters method of instruction. Prerequisite(s): OFTECH-136.

OFTECH-147 Credits: 3

Machine Transcription Proofreading and Editing/Legal

Students transcribe legal correspondence, client documents and court documents from machine dictation. Emphasis is on production of mailable documents, utilizing correct terminology and

grammar skills. Prerequisite(s): OFTECH-122, OFTECH-133 and RBUS-141.

OFTECH-148 Credits: 3

Machine Transcription Proofreading and Editing/Medical

Correct grammar, punctuation and format of medical documents are emphasized through review and practice. Students are introduced to transcribing equipment and techniques, and to the transcription of taped dictation and written drafts of routine medical documents. Microcomputers are used. Prerequisite(s): OFTECH-122 (minimum grade C) and completion of or concurrent registration in both OFTECH-125 and OFTECH-133.

OFTECH-155 Credits: 2

Essential Business Procedures

The student receives hands-on training using a business telephone, including effective speaking and listening skills, customer service skills, message-taking skills and effective use of the telephone directory, a facsimile machine, a photocopier, a business calendar, and an electronic calculator while performing a basic math review.

OFTECH-156 Credits: 1

Keyboarding Skill Development 3

This course is designed for students to improve keyboarding skills utilizing the Cortez Peters method of instruction. Prerequisite(s): OFTECH-146.

OFTECH-164 Credits: 3

Legal Office Procedures

This course is designed to equip students with the decision-making ability necessary to apply their knowledge and skills to handling situations encountered in a law office. This is accomplished through an integrated application of skills using simulation techniques. Prerequisite(s): OFTECH-134 and OFTECH-147.

OFTECH-165 Credits: 3

Administrative Office Procedures 1

This course is designed to develop the professional skills and attitudes needed in today's global business environment. Topics include making ethical decisions, working independently and as a team member and managing time. Telecommunications, mail processing, travel arrangements and conferences, public relations and ergonomics will be included. Prerequisite(s): OFTECH-122 and OFTECH-133.

OFTECH-167 Credits: 4

eBusiness Procedures

Learn Windows, internet, basic home computer maintenance, email, MS Publisher, business telephone, fax, electronic calendaring and standard mail procedures. Use office hardware such as laptop computer, hand-held computer, tablet computer, digital camera, scanner, fax, photocopier. Instruction will be in English.

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OFTECH-174 Credits: 2

Medical Claims Reimbursement

The course focuses on maximizing reimbursement for the medical office through the evaluation and design of patient financial forms, the maintenance of insurance carrier documentation, and the comparison of manual and electronic billing/claims filing systems. Prerequisite(s): Completion of or currently enrolled in RBUS-140.

OFTECH-176 Credits: 1

Alphabetic Filing

Basic terminology, principles and procedures of alphabetic indexing, and records storage and retrieval are applied to card and document filing. Basic procedures for filing alphabetically by subject are also applied.

OFTECH-177 Credits: 1

Punctuation

This is a one-credit course designed to help students improve their punctuation skills as required in today's diverse job market.

OFTECH-184 Credits: 3

MS Office: Word, Excel, Access and PowerPoint

This course offers skill development in word processing such items as multiple-page documents with attributes, spreadsheet with formulas and functions, database with tables, queries, forms/reports, presentations, internet and email. Prerequisite(s): OFTECH-102, OFTECH-133.

OFTECH-185 Credits: 3

MS Office - Intermediate

This course offers skill-development in intermediate and integrated applications in Word, Excel, Access, PowerPoint, internet/email, wireless technologies/PDAs, CD-burner, scanner, web pages and other technologies. Prerequisite(s): OFTECH-184.

OFTECH-186 Credits: 3

MS Office for Bilingual Users

Students will learn MS Word, Excel, Access and PowerPoint using software in English and a second language. Instruction will be presented in English.

OFTECH-187 Credits: 2

Website Development

Students train in website development using Adobe Dreamweaver CS4 suite of software. Web pages are a collection of text in HTML format. Hyper-linking pages, adding images, collecting data and displaying pages on the internet will be introduced.

OFTECH-190 Credits: 2

Bilingual Office Assistant Internship

This is a cooperative training program that allows bilingual students to utilize skills and knowledge in an approved business office, under the supervision and guidance of a teacher and a cooperating employer that serves Spanish speakers. Prerequisite(s): OFTECH-103 and OFTECH-101.

OFTECH-192 Credits: 1

Legal Administrative Professional Internship

This is a cooperative training program enabling students to observe and apply theory, skills and techniques studied in the Legal Administrative Professional program. Students work in an approved legal office under the supervision/guidance of a teacher and an employer. Prerequisite(s): OFTECH-134 and OFTECH-147.

OFTECH-196 Credits: 1

Administrative Professional Internship

This course is a cooperative training program that allows students to utilize skills and knowledge in an approved business office, under the supervision and guidance of a teacher-coordinator and a cooperating employer. Prerequisite(s): OFTECH-137, OFTECH-165 and OFTECH-184.

OFTECH-197 Credits: 3

Medical Office Career Investigation

This course provides students with in-depth exposure to employment in the healthcare office setting. Student will conduct interviews, research into specific medical office careers, prepare a PowerPoint presentation, participate in group and individual work-scenario case problems and prepare an extensive portfolio. Prerequisite(s): Instructor consent required.

OPTSCI–OPTICIAN VISION CARE

OPTSCI-110 Credits: 2

Optical Theory and Principles

A general overview of optical principles and theories. Areas discussed include ethical and legal aspects, optical terminology, lens theory and an introduction to the ophthalmic prescription. Other areas of discussion include the concept of lens power, thick and thin lens theory, and index of refraction and optical prism. Prerequisite(s): Must be admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-111 Credits: 3

Orientation to Ophthalmic Dispensing 1

An overview of the ophthalmic dispensary. The areas covered include: pupillary distance, multifocal and frame measurements, frame materials and frame selection. Frame adjustments and problem-solving skills will be emphasized. Prerequisite(s): Must be admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-112 Credits: 2

Ocular Anatomy and Physiology

The structure and function of the human body is discussed, emphasizing the anatomy and physiology of the human eye and visual systems. Recognition of common eye disorders and refractive errors are discussed. Treatments of visual disorders and current trends in treatment are also covered. Prerequisite(s): Must be admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-113 Credits: 2

Lab Procedures - Surfacing

Practical experience in ophthalmic surfacing procedures is obtained. Students will fabricate single vision and multi-focal lenses. The student will learn to layout a lens, calculate tool curves and determine thickness of a lens. The students will also learn how to verify the power of a lens using lensometers. Prerequisite(s): Must be admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-114 Credits: 3

Lab Procedures - Finishing

Continuation of OPTSCI-113. Students acquire knowledge to fabricate and finish single-vision and multi-focal lenses with emphasis on the procedures performed in the optical finishing lab. This includes additional lensometry skills; operation of the project-o-marker for lens layout; selection of frame patterns; utilization of several systems for edging and finishing ophthalmic lenses. Cosmetic applications such as edge polishing will also be presented. Prerequisite(s): OPTSCI-113 and admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-115 Credits: 3

Introduction to Contacts

Theory, history and terminology of contact lenses including: fitting, application and removal procedures, care of soft and hard lenses, verification of contact lens prescription and "in office" modification of contact lenses. Completing the course will establish a solid foundation in preparing for the National Contact Lens Exam (NCLE). Prerequisite(s): OPTSCI-112 and admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-116 Credits: 3

Optical Business Management

This course will focus on the various aspects of managing a successful and profitable optical business. Special emphasis will be placed on communication skills, dealing with customers, handling telephone customers, motivating and training employees for the delivery of good customer service. Prerequisite(s): Must be admitted to the Optician-Vision Care program (31-516-1).

OPTSCI-117 Credits: 4

Optical Clinic - Advanced Lab and Dispensary Techniques

This course will expand on the knowledge acquired in the first semester. Students will be operating the on-campus dispensary. Students also will assist customers in frame selection, and adjusting and repairing eyewear. The main projects will be production of eyewear in the dispensary. Prerequisite(s): OPTSCI-113, OPTSCI-114, and admitted to the Optician-Vision Care program (31-516-3).

OPTSCI-119 Credits: 2

ABO Certification Review

A comprehensive review of ophthalmic dispensing will take place in preparation for the National Opticianry Certification Exam (American Board of Opticianry). A mock NOCE will be administered. Prerequisite(s): OPTSCI-111 and admitted to the Optician-Vision Care program (31-516-3).

OTASST–OCCUPATIONAL THERAPY ASSISTANT

OTASST-109 Credits: 1

Medical Terminology for OTA

This course promotes knowledge of the elements of medical terminology. Emphasis is placed on the ability to spell and pronounce medical terms, an understanding of medical abbreviations and an appreciation of the logical method found in medical terminology, including word analysis and word building. Terminology for the OTA is explored. This course is delivered online. Basic computer skills are recommended.

OTASST-111 Credits: 2

Alternative Medicine - Theory and Practice

This elective course is designed to broaden the knowledge base of students or traditional healthcare practitioners by exploring popular complementary medicine approaches. Students compare the theory and practice of homeopathy, nutritional supplements, acupuncture and body-energy work. Practical treatment applications for common acute and chronic conditions are shared. Prerequisite(s): Admission to the Occupational Therapy Assistant program (10-514-1).

OTASST-138 Credits: 2

Orthotics - Principles and Fabrication

This course covers the principles of static and dynamic splinting, properties of thermoplastic materials, creation of splint design patterns, custom splint fabrication, commercial splinting products, vendor resources and orthotic technology. Prerequisite(s): Admission to the Occupational Therapy Assistant program (10-514-1) and completion of or concurrent registration in NATSCI-177.

OTASST-171 Credits: 3

Introduction to Occupational Therapy

This course provides an overview of history, the philosophy, ethics and scope of occupational therapy practice. The course examines legal responsibilities, professional resources and organization. Students practice basic skills related to therapeutic relationships and determine their own suitability to a career in occupational therapy. Prerequisite(s): Admission to the Occupational Therapy Assistant program (10-514-1).

OTASST-172 Credits: 3

Medical and Psychosocial Conditions

This course introduces medical and psychosocial conditions as they relate to

occupational therapy practice. Topics include etiology, symptomology, treatment and contraindications. Prerequisite(s): Admission to the Occupational Therapy Assistant program (10-514-1) and completion of or concurrent registration in OTASST-171 and OTASST-173.

OTASST-173 Credits: 2

Activity Analysis and Application

This course provides instruction in activity analysis with hands-on experience in activities across the lifespan. Students apply the teaching/learning process and adhere to safety regulations. Prerequisite(s): Admission to the Occupational Therapy Assistant program (10-514-1).

OTASST-174 Credits: 4

OT Performance Skills

The emphasis of this course is on the development of skills related to assessment and intervention in the areas of sensory, motor, cognition and communication. Prerequisite(s): OTASST-171, OTASST-172 and OTASST-173.

OTASST-175 Credits: 3

Psychosocial Practice

This course examines the role of the OTA in the service delivery to individuals affected by mental health conditions. The course provides an opportunity for development of skills related to psychosocial assessment and interventions. Prerequisite(s): OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

OTASST-176 Credits: 3

OT Theory and Practice

This course examines the theoretical foundations that guide OT practice. Students will apply group dynamics and demonstrate leadership skills. Prerequisite(s): OTASST-171, OTASST-172 and OTASST-173.

OTASST-177 Credits: 2

Assistive Technology and Adaptations

This course explores technologies that support delivery of OT services, with an emphasis on competency related to computer skills, ergonomics, adaptive devices and environments. Prerequisite(s): OTASST-171, OTASST-172 and OTASST-173.

OTASST-178 Credits: 3

Geriatric Practice

This course provides opportunities for the learner to examine the role of the OT in the service delivery to elders in a variety of settings. The course includes analysis of the impact of age-related changes and disease processes on the function of the elderly. Prerequisite(s): OTASST-171, OTASST-172 and OTASST-173.

OTASST-179 Credits: 2

Community Practice

Explores practice options and interventions for occupation-based community practice. Students articulate the unique role on occupational therapy within the community. Prerequisite(s): OTASST-171, OTASST-172, OTASST-173, OTASST-176 and OTASST-178.

OTASST-182 Credits: 3

Physical Rehabilitation Practice

Explores interventions relative to major physical disability diagnoses seen in OT practice. Evaluation, treatment interventions and documentation are emphasized relative to the biomechanical, neurodevelopmental and rehabilitative approaches to practice. Prerequisite(s): OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

OTASST-183 Credits: 3

Pediatric Practice

Explores interventions relative to major pediatric diagnoses seen in OT practices. Evaluation, treatment interventions and documentation are emphasized within the context of the child's occupations. Prerequisite(s): OTASST-174, OTASST-176, OTASST-177 and OTASST-178.

OTASST-184 Credits: 2

OTA Fieldwork 1

Integrates classroom theory and practice into a fieldwork Level I experience. Provides experiences to assist in the development of communication, professional and observational skills. Prerequisite(s): Completion of or concurrent enrollment in OTASST-182 and OTASST-183.

OTASST-185 Credits: 2

OT Practice and Management

Provides opportunities to practice clinical management skills, continuous quality improvement measurement, and administrative concepts and procedures. Students create a professional development plan. Prerequisite(s): OTASST-175, OTASST-179, OTASST-182, OTASST-183 and OTASST-184.

OTASST-186 Credits: 5

OTA Fieldwork 2A

Develops skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork 2B. Prerequisite(s): OTASST-175, OTASST-179, OTASST-182, OTASST-183 and OTASST-184.

OTASST-187 Credits: 5

OTA Fieldwork 2B

Develops skills and behaviors necessary for entry-level occupational therapy assistant practice. Provides a different clinical practice setting than OTA Fieldwork 2A. Prerequisite(s): Completion of or concurrent registration in OTASST-185 and OTASST-186.

PAINT–PAINTING/DECORATING

PAINT-353 Credits: 1

Wood Finishing

The characteristics of supplies used in wood finishing are studied thoroughly. Topics such as the manufacture of stains, shellac, varnishes, wax, lacquers and enamels are covered. Health, safety and general trade practices are also studied. Prerequisite(s): Completion of or concurrent registration in CABMIL-305.

PHARMT – PHOTO DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PHARMT–PHARMACY TECH

PHARMT-300 Credits: 1

Orientation to Pharmacy Operations

Technical aspects of pharmacy are introduced with special emphasis on community pharmacy practices. Topics include drug distribution systems, routes of administration, dosage forms, drug standards, label format, prescription processing, prescription insurance, inventory and nonsterile compounding. Prerequisite(s): Admission to Pharmacy Technician program (31-536-1).

PHARMT-302 Credits: 2

Pharmaceutical Calculations

Basic math computations are reviewed, including addition, subtraction, multiplication and division of whole numbers, fractions and decimals. The course covers specific areas of the avoirdupois, apothecary and metric systems of measurement used in dosage calculations. Formulas and methods used in the preparation of pharmaceutical products are presented. Prerequisite(s): Admission to Pharmacy Technician program (31-536-1).

PHARMT-303 Credits: 2

Introduction to Drug Classification

Pharmaceutical terminology is presented, including generic and brand names of drugs by pharmacologic classification; also covers a survey of the actions and reactions of the major pharmacologic groups, with emphasis on pharmaceutics. Prerequisite(s): Admission to Pharmacy Technician program (31-536-1).

PHARMT-306 Credits: 2

Pharmacy Clinical Experience 1

This course provides practical application of knowledge and technical skills covered in didactic and laboratory portions of the program. Students observe, assist and perform assigned duties in a community pharmacy setting. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307, PHARMT-395, HEALTH-104 and HEALTH-107.

PHARMT-307 Credits: 1

Community Pharmacy Lab

This laboratory course applies theory through performance of technical pharmacy tasks in a community pharmacy setting. Emphasis is on outpatient prescription processing. Prerequisite(s): Student must be admitted to the Pharmacy Technician program (31-536-1).

PHARMT-310 Credits: 1

Institutional Pharmacy Practice

Topics specific to institutional pharmacy practice are presented, including pharmacy references, confidentiality and ethics, jurisprudence, medication errors, materials management, emergency medicine and quality assurance. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307 and PHARMT-395.

PHARMT-311 Credits: 2

Orientation to Sterile Solutions

Focuses on introductory material related to techniques for safe preparation of sterile solutions. Application of basic principles of microbiology, aseptic technique, the operation of both the vertical and horizontal laminar flow hoods to acceptable pharmacy practice standards are presented. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-306 and PHARMT-395.

PHARMT-312 Credits: 3

Pharmacy Operations Laboratory

This laboratory course applies theory through performance of technical pharmacy tasks including unit dose dispensing, IV admixture, repackaging, nonsterile compounding and use of references. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-306 and PHARMT-395.

PHARMT-314 Credits: 2

Pharmacy Clinical Experience 2

This course provides the practical application of knowledge and technical skills covered in didactic and laboratory portions of the program. Students observe, assist and perform assigned duties in an institutional pharmacy setting. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-307, PHARMT-395, HEALTH-104 and HEALTH-107, and completion of or currently enrolled in PHARMT-310, PHARMT-311, PHARMT-312 and PHARMT-316.

PHARMT-316 Credits: 1

Applied Pharmaceutical Calculations

Students learn advanced pharmaceutical calculations involving clinically related medication orders and/or prepared prescriptions. The focus will be on medication label interpretation and application of label information in calculations. Prerequisite(s): PHARMT-300, PHARMT-302, PHARMT-303, PHARMT-306 and PHARMT-395.

PHARMT-395 Credits: 1

Federal Laws, Ethics and Customer Service

This course introduces the student to the practice of pharmacy including the history of the profession, and a description of the roles of the pharmacist and the pharmacy technician in various practice settings. Federal laws, ethics, professional standards and customer service are addressed. Prerequisite(s): Admission to Pharmacy Technician program (31-536-1).

PHOTO–PHOTOGRAPHY

PHOTO-101 Credits: 3

Digital Fundamental Photography

Students will use their digital SLR camera to develop their creative thought while learning the technical and mechanical aspects of photography. Students are required to own a Canon or Nikon D-SLR with manual exposure controls, adjustable apertures and shutter speeds and interchangeable lens capabilities.

PHOTO-102 Credits: 1

Introduction to Digital Photography

Digital photography has changed the world of professional and consumer photography. This course provides an overview of the essentials of digital photography, history, consumer and professional applications, resolutions, digital color and printing applications.

PHOTO-103 Credits: 3

Digital Photography

The theory and application of professional, digital original photography will be studied. Students will use assorted high-end professional digital camera systems and output images via professional caliber, continuous-tone, digital printing systems. Prerequisite(s): PHOTO-108, PHOTO-139 and PHOTO-141.

PHOTO-104 Credits: 2

Digital Color Management for the Graphic Industry

A major challenge facing graphics professionals is how to ensure accurate color reproduction from the original to the computer monitor to final output. This course addresses the varied requirements of designers, artists, photographers, separators and printers.

PHOTO-106 Credits: 3

View Camera Techniques

Students learn how to use a view camera to control the perspective, form and rendition of photographic subjects. Also emphasized are elements of composition and visual organization of the photographic image. Additionally, students learn black and white film processing, printing and finishing techniques. Prerequisite(s): Completion of or concurrent registration in PHOTO-101.

PHOTO-107 Credits: 1

Photographic Trends

Photography has been used to create portrait and pictorial photographs, record history-making events and influence social change. To understand how the medium has evolved, students learn about important photographs and the photographers who created them.

PHOTO-108 Credits: 3

Photographic Lighting

Many light sources are used in professional photography, including natural, incandescent and electronic flash. Students learn the theory of these and other light sources and become competent in their use through practical application. Prerequisite(s): PHOTO-101, PHOTO-106 and completion of or currently enrolled in PHOTO-139.

PHOTO-114 Credits: 3

Photographic Portfolio

This course is designed as the keystone to the completion of the Photography program. The thrust is the development of a working portfolio in preparation for employment. The résumé, interviewing and job search techniques, as well as business basics, are also stressed. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124 and PHOTO-142.

PHOTO-115

Credits: 2

Advanced Digital Photography

This course is designed to develop advanced digital photographic skills relating to high-resolution digital studio and location photography. Variety of support topics are explored including professional monitor/printer calibration and profiling; Photoshop plug-ins for special effects and photographic enhancements. Prerequisite(s): PHOTO-103.

PHOTO-121

Credits: 3

Commercial Photography

Effective photography for advertising requires special considerations, including psychological motivation and appeals used in selling. In addition, students learn how to control subject form and tonality and the function of the photographer as director. Both film and digital processes will be incorporated. Prerequisite(s): PHOTO-108 and PHOTO-139.

PHOTO-124

Credits: 3

Portraiture

Students work with a variety of subjects in both studio and location settings to produce pleasing likenesses and character studies. Dealing with people as subjects in a relaxed fashion and photographer/subject interaction are stressed. The presentation of the final product is also covered. Prerequisite(s): PHOTO-108, PHOTO-139 and PHOTO-141.

PHOTO-126

Credits: 3

Advanced Studio Lighting

This course is a study and execution of modern lighting techniques. Students learn how to apply these techniques in order to produce progressive studio work in a variety of studio situations. Prerequisite(s): PHOTO-103 and PHOTO-108.

PHOTO-130

Credits: 3

Photographic Composition

This course is designed as a critical study of traditional/contemporary composition considerations and of the importance of the photographic critique. Students will be dealing with a photographic dialogue that will emphasize the visual elements and effects of color, line, value, texture, volume, time and form. Prerequisite(s): PHOTO-101, PHOTO-106.

PHOTO-139

Credits: 3

Measurement Techniques

Students learn to control black and white photographic technique by using densitometry and the Zone system. This enables students to pre-visualize the finished photograph before exposing the film. Emphasis is on the 4 x 5 format and sheet film. Prerequisite(s): PHOTO-101 and PHOTO-106.

PHOTO-141

Credits: 3

Photoshop for Photographers 1

The use of color film and digital media as creative capture tools are studied, discussed and applied in a contemporary environment. Students will plan and compose images, as well as learn the fundamentals of Photoshop,

the Macintosh operating system, film scanning and post-shooting image manipulation.

Prerequisite(s): Completion of or currently enrolled in PHOTO-108 and PHOTO-139.

PHOTO-142

Credits: 3

Photoshop for Photographers 2

Advanced studio and location photography are accomplished with the view camera and other camera formats. Composition and planning are stressed as key elements to achieve quality work. Both film and digital processes are incorporated to produce high-quality images in a modern environment. Prerequisite(s): Completion of or concurrent registration in PHOTO-103.

PHOTO-144

Credits: 3

Digital Video and Still Photography

This is a basic camera-oriented digital photography course combining digital still and digital video. Students plan, compose, light and capture the digital image. The course also includes minimal digital editing. Prerequisite(s): PHOTO-101, VICOM-154.

PHOTO-166

Credits: 1

Photographic Management

This course is designed to provide students with the basic understanding of the activities and principles for managing photography-related enterprises, including the challenges and responsibilities of operating a business. The emphasis is on communication skills, estimating, management, marketing, finance and negotiation. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124 and PHOTO-142.

PHOTO-173

Credits: 3

Photojournalism

This course is designed to develop the necessary skills to make concise photos that convey a message, either news or documentary, with emphasis placed on the deadline nature of photojournalism. Topics include ethical and legal considerations and the electronic darkroom. Prerequisite(s): PHOTO-108 and PHOTO-139.

PHOTO-180

Credits: 3

Industrial Photography

Lectures outline the work performed by in-house industrial or corporate photographers. Studio and location assignments enforce the skills required to function in today's commercial climate. Students incorporate color and black-and-white film media, as well as digital capture methods, to complete assignment work. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124 and PHOTO-142.

PHOTO-190

Credits: 1

Photographic Internship

This course is designed to offer the advanced photography student an opportunity to experience real-life work situations in the photographic community. Students will share their on-the-job experiences with the class. Prerequisite(s): PHOTO-103, PHOTO-121, PHOTO-124 and PHOTO-142.

PHYED—PHYSICAL EDUCATION

PHYED-145

Credits: 1

CPR and First Aid

This course offers preparation to certify individuals in the techniques of rescue breathing, choking, CPR and other related emergencies. The course includes training for resuscitation of the adult, child and infant, along with proper techniques in two-person CPR and use of masks for rescue breathing. Successful course completion will give individuals official CPR certification.

PHYED-201

Credits: 3

High-Level Wellness

The focus of the course is to help students make a realistic appraisal of their health and provide techniques to correct minor health problems. The course includes stress management, nutritional awareness and physical fitness techniques.

PHYED-203

Credits: 1

Hatha Yoga for Wellness 1

This Hatha Yoga class focuses on a path toward wellness. It includes postures and meditation techniques that are designed to develop symmetry and balance for the body, mind and spirit. Its exercise disciplines create challenges for self-improvement and control of stress.

PHYED-210

Credits: 3

An Active Approach to Wellness and Fitness

This lecture and lab course provides students with a contemporary approach to the total wellness concept, which includes physical fitness, exercise, nutrition and stress management. The relationship of physical fitness and activity to healthy lifestyles and wellness is examined. Students also learn CPR, make realistic appraisals of their health, and identify and use physical techniques and wellness concepts to develop personal plans for lifetime wellness.

PHYED-221

Credits: 1

Basketball 1

Basic basketball skills – shooting, offense, team play and conditioning – are taught and demonstrated in game situations. Interclass tournaments are conducted for the students.

PHYED-222

Credits: 1

Basketball 2

Advanced individual basketball skills are demonstrated and practiced. The course includes offense and defense strategies along with special situations and coaching.

PHYED-223

Credits: 1

Coed Volleyball 1

This course is designed to introduce students to the basic game of volleyball and to develop volleyball skills for any level of skill, from beginner to experienced.

PHYED-224 Credits: 1

Coed Volleyball 2

A course designed to teach some of the advanced skills of volleyball. Included is an examination of specialty sets, passes and serves. Also, different offenses will be taught including the 4-2, 6-2 and 5-1.

PHYED-233 Credits: 1

Stretch and Stability Techniques

Instruction is given in basic fundamentals and techniques of stretch exercises set to music. This involves a full range of muscle activity, with emphasis on body mechanics, flexibility and body toning.

PHYED-234 Credits: 1

Stretch and Stability Techniques 2

This advanced course includes increasing body awareness, improving flexibility, posture, muscular strength and mobility. This involves strategies for maintaining a full range of muscular activities with emphasis on body mechanics, flexibility, core strengthening and balance.

PHYED-245 Credits: 1

Cardiopulmonary Resuscitation (CPR) and First Aid

This course develops skills needed to certify individuals in the techniques for rescue breathing, choking emergencies and other related breathing emergencies. The skills will also include training for resuscitation of the adult, child and infant along with proper techniques in two-person CPR, use of masks for rescue breathing, and the proper instruction of an automated external defibrillator (AED). Successful course completion will give the individual office certification in CPR/AED for the professional rescuer and certification in first aid basics.

PHYED-248 Credits: 1

Weight Training and Aerobic Fitness 1

This course provides an individualized approach to various types of weight resistance training and aerobic conditioning. Specific training using machines, free weights and floor exercises is included. Variety of cardiovascular exercise methods will be covered.

PHYED-249 Credits: 1

Weight Training and Aerobic Fitness 2

Emphasis on advanced weight training and cardiovascular fitness is stressed. Individuals learn how to develop specific areas of concentration for their personal needs.

PHYED-250 Credits: 3

Movement Exploration for Classroom Teachers

This course is designed for classroom teachers to integrate the discipline of physical education and movement exploration into their classrooms, and the key role activities play in producing physically active students. This course includes the following requirements: an off-campus requirement of field experience, a background check and a TB skin test. Additional fees will be required.

PHYED-255 Credits: 1

Body Toning and Resistance Training 1

Specific techniques of body toning along with progressive resistance exercises are the focus. A series of rhythmic exercises are taught to enhance muscular specificity for developing body shaping and muscular endurance, and to improve physical appearance.

PHYED-256 Credits: 1

Body Toning and Resistance Training 2

This course is designed to teach advanced strategies of body toning and progressive resistance training. Select exercises are presented to enhance muscular specificity for developing body shaping and muscular endurance to improve physical appearance, as well as prepare for the physical demands of everyday living.

PHYED-261 Credits: 1

Modern Dance 1

This course is an introduction to basic styles and techniques and creating patterns of modern dance. The course provides varied experiences with sustained and progressive movements, locomotor and non-locomotor combinations and creative movement techniques.

PHYED-262 Credits: 1

Modern Dance 2

This course is a continuation and development of modern dance techniques with increasing emphasis on choreographing dance patterns and individual performances.

PHYED-263 Credits: 1

Dance for Aerobic Fitness 1

This course is a series of choreographed exercises to music with vigorous continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning, endurance and weight control.

PHYED-264 Credits: 1

Dance for Aerobic Fitness 2

This course is a continuation of aerobic dance exercise and involves full muscle activity combined with vigorous cardiovascular activity. Additional emphasis on aerobic circuit training will be included.

PHYED-266 Credits: 1

Earth-Friendly Fitness

In this course, students explore and participate in practical, green (Earth-friendly) physical activities that help to utilize human energy to reduce one's carbon footprint from mechanical and industrial behaviors.

PHYED-268 Credits: 1

Fitness Walking 1

This course introduces proper guidelines and techniques used in indoor and outdoor fitness walking. Students will learn proper walking mechanics and develop a lifelong walking program. Various forms of walking and related exercises are presented.

PHYED-269 Credits: 1

Fitness Walking 2

This course offers advanced walking techniques and mechanics. Weekly training programs are developed to include distance training, hill workouts and intervals. These workouts are incorporated with an advanced lifelong walking program. Prerequisite(s): PHYED-268.

PHYED-271 Credits: 2

ACE Personal Trainer Exam Preparation

This course provides knowledge and practical skills in preparation for the national certification exam. Topics include safe, effective and purposeful activity guidelines, designing and implementing programs, and essentials of the client-trainer relationship.

PHYED-272 Credits: 2

ACE Lifestyle and Weight Management Consultant Certificate Preparation

This course highlights essential relationships between physical activity and nutrition and illustrates how permanent weight loss is brought about through a change in lifestyle. Topics include weight management, behavior change and physiology of obesity.

PHYED-273 Credits: 2

ACE Group Fitness Instructor Certification Program Course

Designed for fitness professionals teaching any form of exercise in a group setting, this course includes topics such as kinesiology and exercise physiology; instructional techniques such as class design, cueing and injury prevention; and concepts such as developing effective communication and motivational skills.

PLEGAL–PARALEGAL

PLEGAL-101 Credits: 3

Introduction to Paralegalism

This course offers an orientation to the American judicial system, the growth and development of the paralegal profession, ethics and skills required to practice such as interviewing, investigation, legal reasoning and writing, and document preparation. Prerequisite(s): Must be admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-103 Credits: 3

Legal Research

This course provides an understanding of the law library through projects that develop research skills by using digests, legal encyclopedias, reporter systems, treatises and practice manuals. Students also become familiar with computerized legal research. Prerequisite(s): PLEGAL-101, and must be admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL – PLUMB

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PLEGAL-105 Credits: 3

Civil Procedure

This course covers the fundamental principles used in civil litigation. Students apply the procedural concepts discussed by reviewing forms and drafting pleadings and other documents used in civil litigation. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-107 Credits: 3

Legal Writing

This course involves the use of principles that apply to effective legal writing. Students draft memoranda, briefs, letters and other forms of correspondence to gain skills in communicating legal concepts in various areas of the law. Prerequisite(s): PLEGAL-101 and admitted to either the Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-111 Credits: 3

Litigation Practice Systems

This course is a study of the procedures involved and the documents that may be used in civil lawsuit prior to filing, during the resolution of the matter and after the judgment. Included in the study is the paralegal's role in interviewing and investigative techniques, settlement procedures and trial preparation. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-114 Credits: 3

Trusts and Estates - Probate Systems

Students learn the fundamental principles of estate planning, wills and trusts, as well as the essential processes of formal and informal probate using Wisconsin law as a perspective. Estate and gift taxation are also explored by the student. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or Paralegal associate degree (10-110-1) programs.

PLEGAL-116 Credits: 3

Real Estate Law and Practice

This course examines the law of real property, real estate interests, transactions and processes. Forms used in Wisconsin real estate transactions will be used. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-118 Credits: 3

Criminal Practice

The course concentrates on the sources and purposes of criminal law, the meaning of criminal responsibility, elements of crimes, defenses and criminal procedures. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-121 Credits: 3

Domestic Relations and Divorce Practice Systems

This course is a study of actions that affect the family such as divorce, legal separation, annulment, paternity and adoption. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-123 Credits: 3

Corporate Practice Systems

Students are introduced to the various types of business organizations with special emphasis on the limited liability company and the corporation. Topics include formation of business entity, required recordkeeping, securities regulations and organizational maintenance. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-127 Credits: 3

Debtor-Creditor Law

This course examines the law of relating to creation of debt, collection of debt and bankruptcy. Forms used in Wisconsin collection practice and U.S. Bankruptcy Court will be used. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLEGAL-140 Credits: 3

Legal Interviewing/Investigation

This course instructs students how to access public records, interview witnesses, locate missing persons and use the internet as an investigative tool. Prerequisite(s): PLEGAL-101 and admitted to Paralegal certificate, diploma (30-110-1) or associate degree (10-110-1) program.

PLUMB-PLUMBING

PLUMB-300 Credits: 3

Plumbing Theory 1

This fundamental course presents the theory of basic methods of plumbing and piping installation practices. It is intended to complement the course PLUMB-302 Plumbing and Piping Shop 1.

PLUMB-301 Credits: 2

Applied Drawing for Plumbers 1

This course covers basic principles that are essential for visualization and training in the interpretation of blueprints and freehand sketches of simpler plumbing and piping jobs. This includes drawing scales, piping symbols and architectural symbols.

PLUMB-302 Credits: 3

Plumbing and Piping Shop 1

Students will apply the knowledge and skills they have learned to the practical design and construction of complete plumbing installations. They will also be able to develop systemized methods of plumbing installation practices, as well as learn the use and care of plumbing fixtures, appliance equipment and power tools.

PLUMB-304 Credits: 3

Plumbing Theory 2

This course is designed to present the general rules, definitions and principles of the Uniform Wisconsin State Plumbing Code. Students will learn about the code and its regulations. Additionally, students learn the design and installation of various plumbing systems. Prerequisite(s): PLUMB-300.

PLUMB-305 Credits: 2

Plumbing and Pipe Joining Process 2

This course is designed to provide students with advanced pipe joining processes associated with the plumbing field. Specifically, students learn fundamentals of ARC welding, gas welding and wire welding. The course also includes plastic pipe joining methods for potable water, waste and vent systems. Prerequisite(s): PLUMB-308.

PLUMB-306 Credits: 3

Plumbing and Piping Shop 2

This course provides students an opportunity to apply plumbing practices in a shop or actual work setting. The course requires students to combine theory and drawing skills to demonstrate their installation ability. Prerequisite(s): PLUMB-302.

PLUMB-308 Credits: 2

Plumbing and Pipe Joining Process 1

This course is designed to provide students with basic pipe joining processes associated with the plumbing field. Specifically, students will learn fundamentals of cutting, reaming, threading, soldering and brazing. The course also includes oxygen/acetylene cutting methods.

PLUMB-309 Credits: 2

Applied Drawing for Plumbers 2

This course is designed to provide students with experience in drawing. This includes design and layout work, which then leads students to plan view elevations and isometric drawings. Prerequisite(s): PLUMB-301.

PLUMB-310 Credits: 1

First Aid/Safety in Plumbing

This course is designed to provide students with first aid/CPR according to the American Red Cross. Additionally, students will cover U.S. Occupational, Safety and Health Administration (OSHA) guidelines.

PLUMB-312 Credits: 1

Computer Applications/Plumbing

This course is designed to provide students with word processing, PowerPoint, spreadsheet and internet skills. Students will have an opportunity to apply computer skills in various learning activities.

PLUMB-325 Credits: 2

Plumbing Field Experience

This course is designed to provide students with field experience in pipe joining. Students will have an opportunity to practice skills in welding and plastic pipe joining methods,

dependent upon the field assignment. There will also be practical experiences in cutting, reaming, threading, soldering and brazing.

POLICE TECHNOLOGY

POLICE-100 Credits: 3

History and Philosophy of Policing

This course provides an examination of the evolution of private and public law enforcement in America, and of the process and strategy employed while policing in a free society. This course also explores how diversity and ethics relates to organizational conduct of law enforcement agencies.

POLICE-102 Credits: 3

Organization and Administration

This course provides a basic introduction into police administration. It examines principles of management and supervision practices that are applied to public and private law enforcement agencies in America. It will explore organizational strategies related to the budget process, community-oriented policing issues, decision-making, labor relations and personnel management.

POLICE-108 Credits: 3

Introduction to Criminal Justice Process

This course offers an examination of the historical development and operation of the administration of the American criminal justice process. It traces the development, organization and the function of the federal and state court systems, and identifies influential constitutional principles. It also traces the criminal justice process from initiation through final disposition.

POLICE-113 Credits: 3

Criminal Law

This course defines and describes theories concerning the nature of crime and the purpose and source of criminal law in American society. It identifies principles of constitutional, federal, state and local laws that are applicable to criminal law with emphasis on the Wisconsin criminal code. Prerequisite(s): POLICE-108.

POLICE-115 Credits: 3

Criminal Evidence

This course describes the constitutional principles, and the federal laws and state laws governing the admissibility of evidence into the judicial system. The class will also describe the procedures used in the collection, preservation, examination and presentation of evidence in a trial. Prerequisite(s): POLICE-901.

POLICE-117 Credits: 3

Arrest, Search and Seizure

Students study the theory, laws and practices related to the legality of arrests, searches and seizures, both as individual concepts and how these three components interact within the American criminal justice system.

The course also covers constitutional and statutory limitations on the proper authority of law enforcement to perform these tasks. Related contemporary issues also relate to the use of force, and the exclusionary rules will be discussed. Prerequisite(s): POLICE-108.

POLICE-123 Credits: 3

Criminal Investigation

This course helps students identify particular skills necessary to determine whether a crime has been committed and the steps that should be followed in the process of performing an investigation. Students will also become familiar with the components of an investigation, including elements of a criminal act, recognition of a crime scene and possible evidence found therein, and the conducting of interviews with all persons connected to the investigation. Other related topics include identification and custodial interviews of suspects, and how all of these components relate to the prosecution and trial phase. Some materials discussed within the course may contain graphic descriptions of criminal acts.

POLICE-125 Credits: 3

Crime Prevention

Discussions focus on crime issues and their impact on the economic and social systems in America today. Course content also includes the programs and strategies that have evolved in an effort to address these issues. The course presents proactive and reactive approaches to crime.

POLICE-131 Credits: 3

Traffic Theory

Students examine the evolution of motor vehicle laws and the development of traffic law enforcement strategies. This course explores the methodology of post-collision analysis as a means of initiating a safer motoring environment.

POLICE-135 Credits: 3

Juvenile Law and Procedure

This course provides an examination of the evolution of juvenile justice in America. It will analyze the functions and jurisdiction of juvenile justice agencies as they relate to the processing of cases, detention issues and disposition programs under current juvenile law. Crisis management strategies will also be discussed. Prerequisite(s): POLICE-108, POLICE-113, POLICE-117.

POLICE-141 Credits: 3

Police Report-Writing, Records and Interviewing

The student learns to write reports related to daily law enforcement purposes using accepted principles of report writing. Instructional units are devoted to improvement of spelling, punctuation, sentence structure and routine reporting language routinely found in law enforcement. Instruction is geared to both public and private-sector record systems. The student will conduct a number of supervised

interviews. Prerequisite(s): POLICE-108, POLICE-113, POLICE-117.

POLICE-144 Credits: 3

Law Enforcement Internship 1

This course provides students with the opportunity to observe, identify and possibly assist in law enforcement theory, skills and techniques covering the broad spectrum of law enforcement issues, including problem-solving tools, legal procedures and avenues within the law enforcement community. All students must submit to a criminal background check, driver's license check and provide medical documentation of fitness signed by a physician prior to participation in this course. Prerequisite(s): POLICE-900 or POLICE-108, POLICE-901 or POLICE-117 and POLICE-902 or POLICE-113 (minimum grade C).

POLICE-145 Credits: 3

Law Enforcement Internship 2

This course provides students with the opportunity to continue to observe, identify and possibly assist in law enforcement theory, skills and techniques covering the broad spectrum of law enforcement issues, including problem-solving tools, legal procedures and avenues within the law enforcement community. Required: 15 credits earned within the MATC Criminal Justice – Law Enforcement program core classes meeting required GPA level, and consent of Associate Dean of Protective Services. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in the training courses. Prerequisite(s): 15 credits of POLICE coursework (minimum grade C), and dean consent.

POLICE-152 Credits: 3

Victimology

This course provides an overview of conceptual and substantive issues in victim-centered theory and research, including past, present and future models of victim participation within the criminal justice system. This course also covers issues pertaining to crimes against children and women and the dynamics of domestic violence laws. The course also addresses strategies, such as restraining orders and the position of advocates within the community.

POLICE-160 Credits: 3

Contemporary Legal Issues

Student will learn about past and present domestic and foreign terrorist organizations, and the structure of organizations in America that must deal with the actions of these groups. Student will identify constitutional, judicial and statutory concepts relevant to investigating and prosecuting criminal actions of these groups. This includes investigative techniques currently in place.

POLICE-161 Credits: 3

Ethics in Law Enforcement

Course provides a basic understanding of the theoretical foundations of ethical thoughts. Diverse ethical perspectives will be used to analyze and compare relevant issues in law enforcement. Student will critically evaluate individual, social and/or professional standards of behavior within society/law enforcement and also apply a systematic decision-making process to these situations.

POLICE-162 Credits: 3

Sensitive Crimes

Student will identify what a sensitive crime is and responsibilities of law enforcement in dealing with victims of these crimes. Student will learn of resources and remedies available to these vulnerable victims. Student will also learn about crimes related to violence against women and exploitation of children from a local and global perspective.

POLICE-163 Credits: 3

Interview and Interrogation

Student will learn the legal issues that define the interviewing of subjects, both in public or in custody, and various techniques to enhance information obtained including analysis of verbal and non-verbal actions and how they relate to truth or deception of persons during the interview process.

POLICE-164 Credits: 3

Law Enforcement Employability

Course will prepare students to engage in the law enforcement application process including various exams and interviews. Course also addresses mental and physical fitness related to careers in law enforcement.

POLICE-165 Credits: 3

Introduction to Corrections

Course addresses the historical and present practice of correctional systems. Topics including offender profiles, inmate and site security, and basic legal corrections issues will be discussed.

POLICE-166 Credits: 3

History of Police Organization

Overview of the role of police agencies in America in a historical context and also an examination of current issues facing the delivery of police services.

POLICE-170 Credits: 2

Operating Motor Vehicle While Intoxicated/ Standard Field Sobriety Test

In this course, students will learn to recognize and interpret evidence of operating a motor vehicle while intoxicated (OMVWI) violations, administer and interpret standardized field sobriety test (SFST), make appropriate enforcement decisions, prepare arrest reports for OMVWI violations and complete associated paperwork. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy

curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Students must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-171 Credits: 2

Professional Communications

In this course, students will learn the role of communication in law enforcement and will develop and apply specific communication skills and the strategies in a variety of simulated situations. Professional communication will be integrated and reinforced throughout the academy; students will be expected to apply professional communication skills appropriately in all simulations, regardless of curriculum area. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Students must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-172 Credits: 2

First Aid /CPR/AED/Hazardous Materials

Students will learn how to perform an initial medical assessment for injury or medical condition, how to provide immediate treatment for a variety of injuries and conditions, and how to perform cardiopulmonary resuscitation (CPR) and use an automatic emergency defibrillator (AED). Students also learn the basics of responding to situations in which hazardous materials may be present. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-173 Credits: 3

Emergency Vehicle Operation

In this course, students will learn the legal context for law enforcement driving, including basic patrol operations, emergency vehicle response and pursuit driving. They will practice strategies and techniques for normal and emergency operation and pursuit driving. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-174 Credits: 4

Care and Use of Firearms

In this course, students will learn to care for and maintain the primary duty handguns. They will learn to shoot quickly and accurately, including under low-light conditions, while moving and from behind cover. Students will learn necessary weapon-handling skills. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-175 Credits: 3

Defense and Arrest Tactics (DAAT)

In this course, students will learn the basis for and limits to use of force by Wisconsin officers. Students will learn specific techniques for intervention included in the Wisconsin system of defense and arrest tactics. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Students must have the consent of the Associate Dean of Protective Services to enroll in this course.

POLICE – POWENG

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

POLICE-176 Credits: 2

Vehicle Contacts

In this course, students will learn the legal basis for making vehicle contacts, how to conduct a threat assessment to help determine the appropriate type of contact and how to conduct different types of vehicle contacts. Required: Because this course is contained within the State of Wisconsin Basic Recruit Academy curriculum and is necessary to obtain state certification, all students enrolled in this course must have earned 15 credits with a GPA of 2.0 or better, all earned within MATC's Criminal Justice – Law Enforcement program core classes. All students must submit to a criminal background check, driver's license check, and provide medical documentation of fitness signed by a physician prior to participation in these training courses. Prerequisite(s): Must have consent of the Associate Dean of Protective Services to enroll in this course.

POLICE-900 Credits: 3

Introduction to Criminal Justice

This course is an examination of the American criminal justice system, including the historical and modern role and functions of federal, state and local law enforcement, courts and corrections. Introduces critical thinking and problem-solving in the context of law enforcement.

POLICE-901 Credits: 3

Constitutional Law

Course studies the theory of laws and the practices of arrests, searches and seizures as individual concepts and their interrelationships within the criminal justice system. Course also studies constitutional and statutory limitations on the proper authority of law enforcement to perform these tasks. Will contain discussions on contemporary issues of use of force and the exclusionary rules.

POLICE-902 Credits: 3

Criminal Law

This course defines and describes theories concerning the nature of crime, and the purpose and source of criminal law in American society. Identifies principles of constitutional, federal, state and local laws that are applicable to criminal law with emphasis on the Wisconsin criminal code. Prerequisite(s): POLICE 901.

POLICE-903 Credits: 3

Professional Communications

Students will develop and apply specific communication skills and strategies in a variety of simulated situations commonly used in law enforcement. Interview and interrogation skills are also addressed in this context. Prerequisite(s): POLICE-900, POLICE-901, POLICE-902, POLICE-904, POLICE-906, POLICE-907, POLICE-908; students may take POLICE-905 concurrently.

POLICE-904 Credits: 3

Juvenile Law

In this course, students learn the components of the juvenile justice system, including identifying children in need of protection or services, and adjudication of delinquency. Student will identify legal issues and laws relevant to juveniles, and the roles of law enforcement in investigational techniques employed in child maltreatment cases, as well as issues involving missing children. Prerequisite(s): POLICE-901.

POLICE-905 Credits: 3

Report Writing

Student learn to produce reports necessary for operations in law enforcement and the judicial system. Students will also learn the art of creating reports from various sources and the significance of these reports in legal proceedings. Prerequisite(s): POLICE-900, POLICE-901, POLICE-902, POLICE-904, POLICE-906, POLICE-907, POLICE-908; students may take POLICE-903 concurrently.

POLICE-906 Credits: 3

Criminal Investigation Theory

Student will learn the role of evidence in criminal investigation and prosecution and the proper methods of identifying, documenting and recovering evidence. Student also will learn methods and strategies related to interviews of witnesses and specific serious criminal offenses. Prerequisite(s): POLICE-901.

POLICE-907 Credits: 3

Community Policing Strategies

Student will be introduced to strategies employed to implement the community policing model of law enforcement in use today. Student will learn how law enforcement can work with the community as partners, to the benefit of each entity, through proactive approaches that lead to reduction of criminal activities.

POLICE-908 Credits: 3

Traffic Theory

Student will learn Wisconsin traffic laws, and will investigate and document traffic crashes using current citations and forms. Student will also learn to recognize and interpret indicators of impaired driving and what actions are to be taken.

POWENG–POWER PLANT ENGINEER

POWENG-330 Credits: 1

Low Pressure Boilers

Covers basic operation of low pressure boilers and prepares the student for Facilities Operating License 3rd Class (low pressure boiler license up to 15 psi.) Boiler systems fuel, draft, steam and feedwater; absorption chillers, hot water boiler systems and operating procedures are covered. Licensing agency is the American Society of Power Engineers.

POWENG-331 Credits: 2

High Pressure Boilers

This class will prepare students to write the American Society of Power Engineers Facility Operating 2nd Class licensing exam. The course will also prepare students to recognize boiler terminology, and comprehend feedwater, steam, fuel and draft systems. Students will learn heat transfer principles using air heaters, shell and tube heat exchangers, steam and radiant heat. Basic electricity, boiler operation, water treatment programs, cooling towers, traps, strainers and burner management systems are also covered.

POWENG-332 Credits: 1

Boiler Operation

See the course description on INFOnline at matc.edu.

POWENG-333 Credits: 3

Plant Maintenance and HVAC Basics

A hands-on class for repairing, maintaining and troubleshooting equipment found in commercial and industrial settings. Training includes belt drives (alignment, tension and care of belts), chain drives, fans, couplings, motor alignments, bearing removal and installation, lubrication, solenoid valves, packing, gaskets, regulating valves, piping, air compressors, pumps and other mechanical fundamentals.

POWENG-334 Credits: 1

Blueprint Reading for Power Engineering

Building blueprints are studied along with symbols and piping diagrams. Students will be able to locate and identify common building systems. Some mechanical assembly prints will also be covered.

POWENG-335 Credits: 3

Instrumentation and Controls

This course covers a wide variety of boiler and HVAC controls. Thermostats, pneumatic and electronic controls, and building automation systems, pressure transmitters, thermocouples and gauges are just some of the instrumentation covered in this class.

POWENG-336 Credits: 1

Math for Power Engineers

See course description on INFOnline at matc.edu.

POWENG-395 Credits: 3

Electricity for Power Engineering

Course covers basic fundamentals of electricity in the power engineering field of facility maintenance, equipment operation and repair, and power generation.

PSYCH–PSYCHOLOGY

PSYCH-159 **Credits: 3**

Abnormal Psychology

This course surveys the essential features, possible causes, and assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored, as well as current issues within abnormal psychology.

PSYCH-188 **Credits: 3**

Developmental Psychology

Concepts of normal growth and development are presented. A survey is made of the changing physical, physiological and psychological characteristics of individuals as they progress through the life span, from the neonatal period through adolescence, adulthood and old age. The common life crises during the life span are identified.

PSYCH-198 **Credits: 3**

Introduction to Psychology

This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors and social influences. It directs the student to an insightful understanding of the complexities of human relationships in personal, social and vocational settings.

PSYCH-199 **Credits: 3**

Psychology of Human Relations

This course is a survey of psychological principles that assist in the understanding of interpersonal relations in the family and in the work setting. Motivation, emotion, learning, personality, cultural attitudes and healthy lifestyles are among topics considered with reference to effective individual and group behavior.

PSYCH-220 **Credits: 3**

Psychology of Aging

A multidisciplinary, cross-cultural examination of aging covering psychological, biological and sociological aspects of growing old. Prerequisite(s): PSYCH-199 or PSYCH-231.

PSYCH-230 **Credits: 3**

Cross-Cultural Psychology

This course is designed to provide a survey of psychological issues across a variety of cultures. Students will analyze how different aspects of culture affect human behavior, emotion and cognition, and consider a variety of issues relevant to understanding

and relating to people who are culturally different from one another. Prerequisite(s): PSYCH-199, PSYCH-231 or PSYCH-238.

PSYCH-231 **Credits: 3**

Introductory Psychology

A contemporary survey course presenting basic theory, concepts and methods used in scientific psychology today. Topics include methodology, physiological psychology, development, motivation and emotion.

PSYCH-232 **Credits: 3**

Abnormal Psychology

This course surveys systematically the essential features, possible causes, assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Prerequisite(s): PSYCH-199 or PSYCH-231.

PSYCH-233 **Credits: 3**

Social Psychology

This course deals with perception, attitudes, values, communication and roles with relation to the community. Various contemporary social problems are examined, including racism. Emphasis is given to the sociology and psychology concerned with groups. Prerequisite(s): PSYCH-199 or PSYCH-231.

PSYCH-235 **Credits: 3**

Psychology of Adjustment

Adjustment and growth strategies are emphasized with accompanying psychological theories that discuss the nature of personality, its dynamics, development of self-identity, effectiveness of emotional expression, influential agents of socialization, leadership styles, interpersonal communications, maladjustment and treatment modalities.

PSYCH-237 **Credits: 3**

Child Psychology

Students are introduced to children's behavioral development from conception to adolescence. A comprehensive view of the child at each stage of growth is presented with the main focus on the interaction of heredity, physical constitution, maturation and socio-environmental factors. Prerequisite(s): PSYCH-199 or PSYCH-231.

PSYCH-238 **Credits: 3**

Life-Span Psychology

Concepts of normal growth and development are presented. A survey is made of the changing physical, physiological and psychological characteristics of individuals as they progress through the life span, from the neonatal period through adolescence, adulthood and old age. The common life crises during the life span are identified.

PSYCH-240 **Credits: 3**

Health Psychology

Students examine how psychosocial and behavioral factors influence health and disease processes. They will also analyze the

relationship of individual and environmental factors to the development and management of specific diseases. Prerequisite(s): PSYCH-199, PSYCH-231, PSYCH-234, or PSYCH-238.

PSYCH-351 **Credits: 2**

Human Relations Skills

Psychology has a valuable, practical application to the everyday business of living. The objectives of this course are: 1) to supply an understanding of motives underlying human behavior; 2) to help students develop adequate methods of assisting themselves and others in handling problem situations; and 3) to demonstrate the application of human relations skills to home, family, social or work experiences.

PTASST–PHYSICAL THERAPY ASSISTANT

PTASST-101 **Credits: 2**

Orientation to Physical Therapist Assistant (PTA)

Provides an introduction to the profession of physical therapy and the roles of the physical therapist and PTA, emphasizing ethical and legal practice. Paraprofessional communication skills and cultural diversity are identified and related to clinical practice. An overview of medical terminology and common pathologies are also related to physical therapy practice.

PTASST-106 **Credits: 4**

Physical Therapist Assisting 2

This course provides an overview of pathologies of the musculoskeletal, neurological, respiratory and integumentary systems through a lecture/lab format. Initial evaluation, impairments, functional limitations and plan of care are identified for various pathologies. Therapeutic exercises are explained along with application of techniques. The theory and application of electrotherapeutic modalities is explained and demonstrated. Prerequisite(s): PTASST-101 and PTASST-105.

PTASST-107 **Credits: 2**

Pediatric Physical Therapist Assisting

This course presents normal and abnormal growth and development. Students are introduced to pediatric pathologies and treatment plans for pediatric patients with these pathologies. Students learn techniques that are routinely used in the treatment of pediatric patients, including therapeutic handling, sensory integration, therapeutic positioning techniques, and the use of splinting and adaptive equipment. Students are introduced to systems of pediatric physical therapy delivery and discuss the impact of the special needs child on the entire family. Prerequisite(s): PTASST-106, PTASST-116 and completion of or concurrent registration in PTASST-128.

PTASST-108 Credits: 1

Professional Issues and Practices for the Physical Therapist Assistant (PTA)

Provides an overview of the ethical and legal requirements of physical therapy practice. Healthcare systems and reimbursement, utilization review and continuous quality improvement in delivery of physical therapy services are explained. Class also will examine professional issues affecting current practice of the physical therapist/PTA. Prerequisite(s): PTASST-116.

PTASST-111 Credits: 2

Advanced Therapeutic Exercise, Physiology and Techniques for the PTA

Course will advance students' knowledge of cardiopulmonary function, cardiopulmonary rehab techniques and advanced exercise techniques. Prerequisite(s): PTASST-127.

PTASST-114 Credits: 1

Clinical Seminar

This course will discuss student clinical performance as assessed by the Clinical Performance Instrument of the APTA. Students will identify individual learning styles and implement self-assessment of their performance in clinic through the CPI, reflective clinical journals and care plan presentations. Ethical and legal practice in the clinical setting will be discussed.

PTASST-115 Credits: 2

Clinical Physical Therapist Assisting 1

Students apply physical therapist assisting in a clinical setting based on performance, knowledge and skills learned in Physical Therapist Assisting 1 and 2 and Orientation to Physical Therapist Assistant. Prerequisite(s): PTASST-106 and PTASST-127.

PTASST-116 Credits: 3

Clinical Physical Therapist Assisting 2

Students apply physical therapist assisting in a clinical setting based on performance, knowledge and skills learned in Physical Therapist Assisting 1 and 2, Orientation to Physical Therapist Assistant and Clinical Physical Therapist Assisting 1. Prerequisite(s): PTASST-106, PTASST-115 and PTASST-127.

PTASST-117 Credits: 5

Clinical Physical Therapist Assisting 3

Students will apply all physical therapist assistant patient-care techniques on an extensive basis in various physical therapy departments, in a full-time, eight-week clinical affiliation. Prerequisite(s): PTASST-107, PTASST-108, PTASST-110, PTASST-115, PTASST-116, and PTASST-128.

PTASST-126 Credits: 3

Musculoskeletal Anatomy

This course is a study of the body's major muscle groups, innervations, skeletal anatomy and joint structure; and their relationships to exercise and to injury prevention in sports and everyday activities. Prerequisite(s): NATSCI-103.

PTASST-127 Credits: 4

Kinesiology for Physical Therapist Assistants

Kinesiology is the study of human motion. Specific emphasis is placed on the muscles of the human body and other forces that affect motion, including gravity, external resistance and friction. Principles of physics, algebra, geometry, anatomy and physiology are combined to understand how muscles create human motion. A detailed examination of osteology and arthrology is necessary to understand muscle actions and joint mechanics. The study of goniometry, manual muscle testing and common biomechanical pathologies are also included. Prerequisite(s): PTASST-101, PTASST-105, NATSCI-103, and the completion of or concurrent registration in PTASST-126.

PTASST-128 Credits: 2

Applied Kinesiology

This course presents the kinesiology of major body segments: shoulder, girdle, trunk and the pelvis. Therapeutic interventions for pathologies of these segments are reviewed and demonstrated. Normal and abnormal gait is analyzed related to functional activity and musculoskeletal and neurological pathologies. Prerequisite(s): PTASST-127 and completion of or concurrent registration in PTASST-107.

PTASST-138 Credits: 3

PTA Kinesiology 1

Introduces basic principles of musculoskeletal anatomy, kinematics and clinical assessment. Students locate and identify muscles, joints and other landmarks of the lower quadrant, in addition to assessing range of motion and strength. Prerequisite(s): Admission to Physical Therapy Assistant program (10-524-1).

PTASST-139 Credits: 4

PTA Patient Interventions

An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant. Prerequisite(s): Student must be admitted to the Physical Therapist Assistant program (10-524-1).

PTASST-140 Credits: 2

PTA Professional Issues 1

Introduces the history and development of the physical therapy program, legal and ethical issues, the interdisciplinary health care team and professional communication skills. Prerequisite(s): Admitted to Physical Therapist Assistant program (10-524-1).

PTASST-141 Credits: 4

PTA Kinesiology 2

Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints and other landmarks. Students also assess range of motion and strength of the axial skeleton and upper quadrant and integrate analysis of posture and gait. Prerequisite(s): PTASST-138, PTASST-139 and PTASST-140.

PTASST-142 Credits: 3

PTA Therapeutic Exercise

This course provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt and assess responses to therapeutic exercises. Prerequisite(s): PTASST-138 and either NATSCI-177 or both NATSCI-201 and NATSCI-202.

PTASST-143 Credits: 4

PTA Therapeutic Modalities

Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA. Prerequisite(s): PTASST-139.

PTASST-144 Credits: 4

PTA Principles of Neuromuscular Rehabilitation

This course integrates concepts of neuromuscular pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): PTASST-139, PTASST-141 and PTASST-142.

PTASST-145 Credits: 4

PTA Principles of Musculoskeletal Rehabilitation

Integrates concepts of musculoskeletal pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): PTASST-138 and PTASST-139.

PTASST-146 Credits: 3

PTA Management of Cardiopulmonary and Integumentary Conditions

Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions and data collection in patient treatment. Prerequisite(s): PTASST-139, PTASST-141 and PTASST-142.

PTASST-147 Credits: 2

PTA Clinical Practice 1

Part-time clinical experience for applying foundational elements, knowledge, technical skills pertinent to physical therapy practice. Prerequisite(s): Completion of or concurrent enrollment in PTASST-139 and PTASST-141.

PTASST-148 Credits: 3

PTA Clinical Practice 2

Provides another part-time clinical experience for students to apply foundational elements, knowledge and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): PTASST-147.

PTASST-149 Credits: 2

PTA Rehabilitation Across the Life Span

A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the life span. In addition to the PTA's role in health, wellness and prevention, reintegration and physical therapy interventions for special patient populations will be addressed. Prerequisite(s): PTASST-144, PTASST-145, PTASST-146 and PTASST-148.

PTASST – RADT DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

PTASST-150 Credits: 2

PTA Professional Issues 2

This course incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. Prerequisite(s): PTASST-140 and PTASST-148.

PTASST-151 Credits: 5

PTA Clinical Practice 3

Provides a full-time clinical experience to apply foundational elements, knowledge and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): PTASST-144, PTASST-145, PTASST-146 and PTASST-148.

QETECH–QUALITY ENGINEERING/ INDUSTRIAL TECHNOLOGY

QETECH-112 Credits: 1

Engineer Specifics Drawing I

This course covers the basic principles essential for visualization and training in the interpretation of blueprints and freehand sketches of simpler machine parts. Emphasis is placed upon orthographic projection principles and pictorial drawing.

QETECH-114 Credits: 1

Metrology 1

Introduces inspection terminology, measuring instruments, instrument handling and measuring techniques. Along with hands-on use of each measuring instrument, the course provides the student with criteria for proper instrument selection based on part print requirements.

QETECH-116 Credits: 3

Engineering Economic Analysis

Basic financial accounting principles, cost systems, interpretation and use of accounting reports, discounted cash flow techniques, capital budgeting, return on investment, cost/benefit analysis, project selection and opportunity assessment will be covered.

QETECH-118 Credits: 3

Lean Principles

Students will identify and apply Lean tools to streamline business processes. Topic areas will include value stream mapping, layout, 5s workplace organization, point of use storage, visual controls, standard work, cellular and flow concepts, Lean culture, Pull/Kanban systems, error-proofing and total productive maintenance.

QETECH-122 Credits: 1

Engineering Specifications/Drawing 2

Instruction is offered in the interpretation of blueprints that show job procedure methods and their relation to drafting. Attention is given to representations of common machine processes, geometric dimensioning and tolerancing, sections and other

advanced drafting and design principles. Prerequisite(s): QETECH-112.

QETECH-124 Credits: 1

Metrology 2

This course is a continuation of MACHTL-360 Metrology. The level of precision is increased as more precise instruments and methods of inspection are taught. Gage blocks, the optical comparator, dial bore gages and the Coordinate Measuring Machine (CMM) are just some of the advanced pieces of equipment that are introduced. The basic concept of Statistical Process Control (SPC) is also presented. Prerequisite(s): QETECH-114.

QETECH-132 Credits: 3

Six Sigma Green Belt 1

Provides the student with the skills and abilities to apply the Six Sigma methodology (Define/Measure/Analyze/Improve/Control). Six Sigma is a strategic approach to implementing quality, process and business efficiency improvement through the use of statistical and other analytic tools. Topic areas include problem and metric definition, project management, team dynamics, process mapping, investigative tools, process analysis and capability, and gage R & R studies. Prerequisite(s): BADM-104 or MATH-260.

QETECH-134 Credits: 3

Six Sigma Green Belt 2

Provides the student with the skills and abilities to apply the Six Sigma methodology (Define/Measure/Analyze/Improve/Control). Six Sigma is a strategic approach to implementing quality, process and business efficiency improvement through the use of statistical and other analytic tools. Topic areas include further statistical analysis and hypothesis testing, correlation and regression, statistical process control, methods to implement solutions, solutions validation and control plans. Prerequisite(s): QETECH-132.

QETECH-138 Credits: 3

Introduction to Quality Engineering

Studies principles and techniques of quality engineering in management, production and assurance of quality. Emphasizes fundamentals of total quality assurance for products, service and process control including fundamentals of statistics, sampling, control charts, quality reporting, process capability analysis, tool and gage control, document control, standards and continuous improvement methods. Prerequisite(s): MATH-260 or BADM-104.

QETECH-142 Credits: 3

Six Sigma Green Belt Project

This is a data collection and methods capstone project. Student will apply the Six Sigma problem-solving methodology to a real problem in their place of employment or through service learning. An emphasis will be placed on team skills; project deliverables; project, time and constraint management; and selection of appropriate tools and

statistical techniques. Students will select one or more of four concentrations in healthcare, manufacturing, business operations, or environmental and social responsibility. Prerequisite(s): QETECH-132, QETECH-134.

QETECH-144 Credits: 3

Supplier Quality Assurance

This course provides students with the knowledge to determine acceptance criteria, evaluate and select new suppliers, assist in supplier development, monitor supplier performance and risk management (price variances, quality variability or delivery slippages). Includes the process to develop, implement and maintain an effective supplier nonconformance program in the organization. Prerequisite(s): MATH-260 or BADM-104.

QETECH-146 Credits: 3

Quality Management Systems and Standards

Presents general requirements of industrial and international quality standards. Includes a historical overview of the evolution of quality management systems and explains the purpose of ISO quality systems certification, 9000, 14000 and 26000. Discusses implementation approaches. Reviews quality audit principles relative to products processes and systems. Prerequisite(s): MATH-260 or BADM-104.

QETECH-148 Credits: 3

Quality Cost Analysis

Students will analyze and categorize the four categories of the cost of quality: internal, external, prevention and appraisal. Emphasis will be placed on investing in the prevention, appraising of a product or service for conformance, and the implications of failure to meet requirements.

QETECH-152 Credits: 3

Six Sigma Black Belt Tools and Concepts

Course provides the knowledge to achieve the level of Six Sigma Black Belt. Students are expected to possess additional proficiency in identifying project deliverables, selecting appropriate tools to determine customer requirements, benchmarking, change management, reliability, hypothesis testing, non-parametric data, design of experiments and statistical process control through the DMAIC process. The concepts of Design for Six Sigma (DFSS) to “build quality in” at the design stage will be introduced. Prerequisite(s): QETECH-132, QETECH-134.

RADT–RADIOLOGIC TECHNOLOGY

RADT-149 Credits: 5

Radiographic Procedures 1

This course prepares radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired results.

RDAT – RBUS DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

RDAT-158 Credits: 3

Introduction to Radiography

This course introduces students to the role of radiography in health care. Students apply legal and ethical considerations to patient care and pharmacology in the radiologic sciences.

RDAT-159 Credits: 3

Radiographic Imaging 1

This course introduces radiography students to the process of creating radiographic images. Students determine the factors that affect image quality including contrast, density and distortion. Students apply OSHA standards for health and safety in the darkroom.

RDAT-165 Credits: 3

Applied Cross-Sectional Anatomy

Rapid advances in the use of CT, MR imaging and ultrasound have created the need for understanding cross-sectional imaging of anatomy. This course identifies anatomy in the axial, coronal and sagittal planes, emphasizing 3D relationships of body structures in the context of diagnostic medical imaging. Prerequisite(s): NATSCI-138.

RDAT-168 Credits: 2

Radiography Clinical 1

This beginning-level clinical course prepares radiography students to perform radiologic procedures on patients, with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

RDAT-170 Credits: 3

Radiographic Imaging 2

This course prepares radiography students to apply advanced radiographic principles to the production of radiographic images. Students analyze exposure factor considerations, differentiate between film and exposure latitude, and use beam-restricting devices.

RDAT-174 Credits: 2

ARRT Certification Seminar

Provides preparation for the national certification examination prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the areas that need strengthening for each student. Simulated registry examinations are utilized. Prerequisite(s): Must be admitted to the Radiography program (10-526-1).

RDAT-180 Credits: 1

Radiography Diagnostic Services

Introduces students to radiography non-client duties related to various diagnostic areas, client handling skills, assistance in setting up clients for diagnostic procedures, and documentation skills related to the diagnostic procedures. Basic anatomy and physiology, and relevant medical terminology and abbreviations are included.

RDAT-189 Credits: 1

Radiographic Pathology

Prepares radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications and prognosis, and locate the radiographic appearance of pathologies.

RDAT-190 Credits: 2

Radiography Clinical 5

This fourth-level clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RDAT-191 Credits: 5

Radiographic Procedures 2

This course prepares radiography students to perform routine procedures on various parts of the body, including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired results.

RDAT-192 Credits: 3

Radiography Clinical 2

This second-level clinical course prepares radiography students to perform radiologic procedures on patients, with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting.

RDAT-193 Credits: 3

Radiography Clinical 3

This third-level clinical course prepares radiography students to perform radiologic procedures on patients, with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting.

RDAT-194 Credits: 3

Imaging Equipment Operation

Introduces radiography students to principles and application of x-ray technology. Students analyze how x-rays are produced and determine the corrective actions necessary for common equipment malfunctions.

RDAT-195 Credits: 2

Radiographic Quality Analysis

Course prepares radiography students to analyze radiographic images for quality. Students will apply quality control tests to determine the causes of image problems, including equipment malfunctions and procedural errors.

RDAT-196 Credits: 3

Modalities

Introduces radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy.

RDAT-197 Credits: 3

Radiation Protection and Biology

This course prepares radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure.

RDAT-198 Credits: 2

Radiography Clinical 6

This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high-quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies.

RDAT-199 Credits: 3

Radiography Clinical 4

This fourth-level clinical course prepares radiography students to perform radiologic procedures on patients, with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. Prerequisite(s): RADT-193.

RBUS–RELATED BUSINESS

RBUS-102 Credits: 3

Mathematics of Business

Students develop techniques to efficiently and accurately calculate business applications of checking accounts, bank reconciliation, percentage formula, rate and amount of increase and decrease, payroll, invoices, trade discounts, cash discounts, markup, markdown, interest, credit and loans.

RBUS-111 Credits: 3

Business Communications

Students analyze communication situations to plan, draft and complete effective messages for both print and electronic delivery (including IM, voice messaging and blogging). Emphasis is on the application of strategies to prepare ethical, receiver-oriented messages for diverse audiences. Students may participate in team activities to develop skills critical for today's business environment. Prerequisite(s): ENG-152 or any 200-level ENG or SPEECH course.

RBUS-140 Credits: 3

Medical Insurance Principles and Coding

This course presents common health insurance terminology and familiarizes students with basic principles of disease coding and procedural coding from the physician/provider perspective. This course is not designed for experienced coders. Prerequisite(s): OFTECH-125.

RBUS-141 Credits: 3

Legal Terminology and Court Structure

This course stresses the development and usage of a basic legal vocabulary, explains the structure of federal and state court systems and explains proper preparation of court papers and legal instruments.

RBUS-180 Credits: 1

Business Career Planning

This course focuses on personal and professional preparation for one's career. It covers self-esteem/value clarification (understanding your behavior), human relations (creative problem-solving and decision-making), communication skills (oral and written), time management (setting priorities and organizational techniques) and career preparation (gaining confidence, the power of positive thinking and the job search). Through lectures, films, handouts, guest speakers and field trips, overall guidelines are provided for total professional development.

RDIAT–RENAL DIALYSIS

RDIAT-302 Credits: 3

Renal Failure and Support Therapies

After a review of normal renal anatomy and physiology, the student is introduced to pathological changes and/or conditions of the renal system and the effects of these changes on patients with ESRD. Treatment modalities are also discussed. Prerequisite(s): RDIAT-321 and HEALTH-101.

RDIAT-304 Credits: 1

Hemodialysis Laboratory Procedures

This laboratory course provides the student with hands-on experiences in learning the technical skills required to function as a renal dialysis technician. Prerequisite(s): RDIAT-321, HEALTH-101 and completion of or concurrent registration in RDIAT-302.

RDIAT-320 Credits: 3

Introduction to Renal Dialysis

This lecture/laboratory course introduces students to health care concepts, basic patient care skills, infection control procedures, dialysis-related math applications, chronic illness and the grieving process. It also covers the renal dialysis technician's role within the healthcare system as it relates to personal/vocational perspectives. Prerequisite(s): Admission to the Renal Dialysis program (31-517-1).

RDIAT-321 Credits: 4

Principles of Renal Dialysis 1

This lecture/laboratory/clinical course is designed to introduce students to normal and abnormal renal anatomy and physiology, renal failure, dialysis, vascular access and basic concepts of laboratory testing as related to hemodialysis and End Stage Renal Disease (ESRD). During this course, students are given the opportunity to observe, assist and perform skills in an assigned clinical facility. Prerequisite(s): RDIAT-320.

RDIAT-322 Credits: 3

Principles of Renal Dialysis 2

This lecture course provides in-depth principles and procedures of hemodialysis. Patient observations, patient care skills, infection control, safety, quality management skills, complications of dialysis, reprocessing and peritoneal dialysis are discussed. Career opportunities and interviewing skills also are discussed. Prerequisite(s): RDIAT-321, HEALTH-101 and completion of or concurrent registration in RDIAT-304.

RDIAT-323 Credits: 2

Clinical Practicum 1

This course provides students with the opportunity to apply the principles and procedures of the hemodialysis delivery system with ESRD patients. Students observe, assist and/or perform skills in affiliating dialysis units. Prerequisite(s): RDIAT-321, HEALTH-101 and completion of or concurrent registration in RDIAT-302, RDIAT-304 and RDIAT-322.

RDIAT-324 Credits: 3

Clinical Practicum 2

This course provides students with an opportunity to continue to observe, assist and/or perform and perfect dialysis delivery system procedures in affiliating dialysis units. Prerequisite(s): RDIAT-304 and RDIAT-323.

RENEW–RENEWABLE ENERGY/ELECTRICITY

RENEW-150 Credits: 2

Introduction to Photovoltaics

This course serves as an introduction to the concept of energy, how it is stored, produced, transported and used. The course culminates with an introduction to how electricity is produced from solar energy.

RENEW-181 Credits: 3

Wind Power I

This course is an introduction to the basics of wind energy systems. The course combines lectures and tours of specific topics within wind energy systems. The student will be introduced to the process of capturing wind energy and converting to electrical energy. Topics will include atmospheric causes for wind, wind turbines, siting and inverters. The final project will include an evaluation and/or design of a wind energy system as either a home-scale installation or utility-scale wind farm.

RENEW-182 Credits: 3

Wind Power II

This course is a continuation of the Wind Power I course. This course combines lectures and labs related to wind power applications. Prerequisite(s): RENEW-181.

RENEW-300 Credits: 1

Solar Thermal Energy Design

This class introduces students to heat energy supplied by the sun. Passive lighting and heating loads are studied and calculated along with solar collectors, pumps and heat exchangers. Students will learn about efficiencies involving hot water for portable use as well as building heat. A large, solar hot-water heating system located at the Oak Creek campus will be used extensively for collecting data, and calculating amount of BTU collected and used. Carbon dioxide offset also is studied.

RESPC–RESPIRATORY THERAPIST

RESPC-111 Credits: 3

Respiratory Survey

This course examines the role of the respiratory therapist within the healthcare community. It reviews the ethical, legal and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. Prerequisite(s): Admission to Respiratory Therapist program (10-515-1).

RESPC-112 Credits: 2

Respiratory Airway Management

Provides a comprehensive exploration of airway management concepts and skills. Prerequisite(s): Completion of or currently enrolled in RESPC-174.

RESPC-113 Credits: 3

Respiratory Life Support

Focus is on management of adult ventilator support. Prerequisite(s): RESPC-172 and RESPC-175, and completion of or currently enrolled in RESPC-112.

RESPC-145 Credits: 3

Respiratory Care Registry Review

This course provides respiratory care practitioners with a review of essential knowledge and techniques required for

the advanced practitioner written registry and clinical simulation examinations.
Prerequisite(s): RESPC-170.

RESPC-171 Credits: 3

Respiratory Therapeutics 1

Course introduces students to the topics of medical gas administration and humidity, and aerosol therapy. The student will apply physics, math and patient assessment concepts to oxygen, aerosol and humidity therapy. Prerequisite(s): Admission to Respiratory Therapist program (10-515-1) and completion of or currently enrolled in RESPC-111, and NATSCI-177 or NATSCI-202.

RESPC-172 Credits: 3

Respiratory Therapeutics 2

Examines the role of the respiratory therapist within the healthcare community. Reviews the ethical, legal and regulatory principles that guide practice across diverse populations. Prerequisite(s): Admission to Respiratory Therapist program (10-515-1), completion of or currently enrolled in RESPC-171.

RESPC-173 Credits: 3

Respiratory Pharmacology

Examines basic pharmacology principles, drug dosage and calculations and medications for inhalation including mucolytics, bronchodilators and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers and antimicrobials. Prerequisite(s): NATSCI-177 or NATSCI-202.

RESPC-174 Credits: 3

Respiratory/Cardiac Physiology

Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent respiratory therapist. Prerequisite(s): NATSCI-177 or NATSCI-202, and admitted to the Respiratory Therapist program (10-515-1).

RESPC-175 Credits: 2

Respiratory Clinical 1

Introduces respiratory therapy practice in the hospital setting. Includes the development of skills such as basic therapeutics, patient assessment, medical record review, safety practices, patient interaction and communication. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in a minimum of five (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): RESPC-111, RESPC-172, RESPC-173, RESPC-174, and admitted to Respiratory Therapist program (10-515-1).

RESPC-176 Credits: 3

Respiratory Disease

Exploration of signs, symptoms, causes, progression and treatment of obstructive, restrictive and infectious diseases or disorders

of the body that affect the respiratory systems. Prerequisite(s): RESPC-170.

RESPC-177 Credits: 4

Respiratory Life Support Technology

In this course, students focus on adult respiratory critical care, including the management of mechanical ventilation and artificial airways. Prerequisite(s): RESPC-172, RESPC-174, RESPC-175.

RESPC-178 Credits: 3

Respiratory Clinical 2

Continued development of respiratory therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in a minimum of 12 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required, competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): RESPC-175.

RESPC-179 Credits: 3

Respiratory Clinical 3

Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in a minimum of 19 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required, competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): RESPC-178 and student must be admitted to Respiratory Therapist program (10-515-1).

RESPC-180 Credits: 2

Respiratory Neonatal/Pediatrics Care

This course provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, noninvasive and invasive therapeutic interventions. Prerequisite(s): Admitted to the Respiratory Therapist program (10-515-1).

RESPC-181 Credits: 3

Respiratory/Cardio Diagnostics

Covers advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine. Prerequisite(s): RESPC-173 and completion

of currently registered for RESPC-113 and RESPC-176, and admission to Respiratory Therapist program (10-515-1).

RESPC-182 Credits: 3

Respiratory Clinical 4

Continued development of respiratory therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in a minimum of 26 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required, competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): Admission to Respiratory Therapist program (10-515-1), RESPC-179 and completion of or currently enrolled in RESPC-113.

RESPC-183 Credits: 3

Respiratory Clinical 5

Focuses on the completion of respiratory therapy competencies and transition to employment. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in all of the required and required/simulated competencies. The instructor may identify specific competencies to be addressed during this clinical. Note: Competencies with an R are required, competencies with an S are required, but may be simulated; competencies with an O are optional. Prerequisite(s): Admission to Respiratory Therapist program (10-515-1), RESPC-182.

RLEST–REAL ESTATE

RLEST-174 Credits: 3

Technical Writing for the Real Estate Professional

Students will engage in hands-on technical writing tasks in order to be able to plan, design and execute well-developed documents for real estate related transactions. These include various types and forms of real estate offers, contingencies, technical data and specification documents, listing, professional business letters and marketing materials.

RLEST-175 Credits: 3

Technical Writing for Home Inspectors

Students will engage in hands-on technical writing tasks in order to be able to plan, design and execute well-developed documents for real estate related transactions using construction terms. These include various forms, business letters and marketing materials to be used in the home inspection business.

RLEST – SOCSCI DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

RLEST-180 Credits: 3

Principles of Real Estate

This course, in addition to Real Estate Law (RLEST-182), satisfies the educational licensing requirement that must be met prior to taking the State of Wisconsin Real Estate Salesperson Exam. The content of the course will address agency/brokerage, title and deeds, finance appraisal, homeownership, economics of real estate government limitation, forms and contracts.

RLEST-181 Credits: 3

Principles of Commercial Real Estate

This course covers the broad area of commercial property, which includes retail facilities, office buildings, mini-storage and warehouses, as well as apartment complexes. Areas to be addressed include: listing, leasing, financing, marketing, buying, selling, valuation and the advantages of specialization. The differences between commercial and residential buildings, as a real estate professional and as an investor, will be emphasized. Prerequisite(s): RLEST-180, RLEST-182.

RLEST-182 Credits: 3

Real Estate Law

This course, in addition to Principles of Real Estate (RLEST-180), will satisfy the educational requirements for the State of Wisconsin Real Estate Salesperson Exam. The course will cover the duties and responsibilities of a real estate professional. Disclosure requirements, all forms, contracts, addenda, amendments, deed options and land contracts will be covered thoroughly. Closing a transaction, discrimination, landlord/tenant law and environmental issues will also be covered.

RLEST-183 Credits: 3

Real Estate Broker Preparation

The course satisfies the educational requirement for the State of Wisconsin Real Estate Brokers Exam. The course will focus on closing a transaction; the responsibilities of a broker including: employer and human resources, supervision and leadership, managing liability and risk, and disclosure duties. Also covers real estate as a business, trust accounts, special issues from Starker Exchanges, auctions, foreclosures and short sales. Instruction includes familiarity with all of the forms and contract options.

RLEST-184 Credits: 3

Real Estate Mortgage Processing

The fundamentals of mortgage lending and lending terminology are covered along with the sources of mortgage money, from conventional to governmental financing. Mortgage lending math, loan documents, government agencies and the secondary mortgage market are also examined. Government controls from the HUD-1 to the RESPA rules are covered. This is an ever-changing industry with many opportunities and complications.

RLEST-185 Credits: 3

Real Estate Investment Principles

Real estate investment fundamentals are explained. Types of investment real estate, investment objectives and the investment process are discussed. Investment techniques are analyzed, from the gross rent multiplier to the internal rate of return and cap rates. You will be able to compare properties, investment opportunities, or limitations.

RLEST-186 Credits: 3

Real Estate Sales Tools

Upon completion, students will have a toolbox to help launch a successful career in real estate. The class will review the basics of marketing for real estate success, including using the right words in print and in person, using technology effectively and ultimately creating a basic marketing plan for success.

RLEST-187 Credits: 3

Broker Management

This course plus RLEST-183 will meet the requirements for the State of Wisconsin licensing as a Real Estate Broker. The course will cover in depth all the State of Wisconsin real estate forms, contracts and documents. A heavy focus will be on the management of a real estate brokerage business. This would include business management, financial management, office management and employee or agent management. Other important areas that will be covered in depth are the duties of a broker and ethics. The class will look at these components considering industry standards and regulatory requirements. Prerequisite(s): RLEST-180, RLEST-182.

RLEST-188 Credits: 3

Listing, Selling and Sales Tools

Broker/salesperson relationships and office/listing procedures are studied; purchase, advertising, sales plans/presentation are also reviewed. Current sales and marketing of real estate are reviewed.

RLEST-189 Credits: 3

Introduction to Home Inspection

This course is designed to meet the need for inspection knowledge for the real estate market, including inspectors, realtor buyers and sellers. The course covers the physical components of a home, including soils, foundations, structure, plumbing, electrical, heating, venting and air conditioning. Public policy, procedures and report writing are also addressed in this class.

RLEST-190 Credits: 3

Introduction to Property Management

Property management is discussed in regard to leases, rent scheduling, selling space and renting techniques. Tenant selection, supervision and relations with owners are covered, along with purchasing, budgets, reports, and legal and professional relationships. Also addressed is the industry of providing property management services to both residential and commercial clients.

RLEST-191 Credits: 3

Residential Plumbing for Inspectors

This course focuses on passing the State of Wisconsin Uniform Dwelling Code Plumbing Inspector Exam. All plumbing code material on the exam will be covered in class including pipe sizing, water distribution and waste systems, and cross connection. Prerequisite(s): RLEST-189.

RLEST-192 Credits: 3

Uniform Dwelling Code Construction for Inspectors

Focuses on the Uniform Dwelling Code of the State of Wisconsin Department of Commerce and prepares students for the Department of Commerce Uniform Dwelling Code – Construction Inspector Certification Exam.

RLEST-193 Credits: 3

Residential Electrical for Inspectors

This course follows the requirements of the National Electrical Code. It provides students with the required knowledge to take the State of Wisconsin Uniform Dwelling Code Electrical Inspector Exam. The material covered will include service sizing, electrical boxes and distribution systems, as well as shock resistance. Prerequisite(s): RLEST-189.

RLEST-194 Credits: 3

UDC Heating, Venting and Air Conditioning for Inspectors

This course focuses on the Uniform Dwelling Code of the State of Wisconsin Department of Commerce and prepares students for the Department of Commerce Uniform Dwelling Code - Heating, Ventilating and Air Conditioning Inspector Certification Exam. Prerequisite(s): RLEST-189.

RLEST-197 Credits: 3

Commercial Building Code for Inspectors

This course focuses on the Wisconsin Commercial Building Code; the class prepares students for the Department of Commerce Commercial Building Inspector Certification Exam.

RLEST-198 Credits: 3

Residential Structures for Inspectors

This course provides students with a working knowledge of structural calculations required to size structural members used in residential construction. Students become proficient in calculating loads; drawing loading, shear and moment diagrams; determining deflection and sizing beams, columns and footings. Prerequisite(s): RLEST-189.

SOCSCI–SOCIAL SCIENCE

SOCSCI-149 Credits: 3

Ethics for the Professions

This course surveys the range of theories and positions relevant in ethics today. Critical discussions cover a range of views and approaches to the ethical dilemmas of our world in health, human services and business and industry. Philosophical

reflection, clarification and acceptance of all views will be sought.

SOCSCI-172 Credits: 3

Introduction to Diversity Studies

An interdisciplinary course that, using basic social science vocabulary, examines the history and impact of transmigration and colonialism and principles of intercultural communication, while promoting respectful interactions in diverse contexts. Topics also include: majority/minority relations, ageism, sexism, sexual orientation and gender differences, and the disabled and the American Disability Act (ADA). Finally, ethnic relations are studied in global and comparative perspectives.

SOCSCI-197 Credits: 3

Contemporary American Society

This course examines the network of interdependent social systems that affect students as employees, family members and citizens. The study of institutions and exploration of contemporary issues and trends expand students' use of thinking skills, enabling them to advocate positions and participate fully in a democracy.

SOCSCI-200 Credits: 3

Introduction to Ethical Issues

This course surveys the range of theories and principles that are relevant in ethical discussion and debate today. Thoughtful exploration and examination will address the range of moral views and approaches that are pertinent to ethical dilemmas in both personal and public life, and from community or local interest, as well as from the larger world view.

SOCSCI-203 Credits: 3

Introduction to Sociology

This is the study of social relationships with emphasis on groups and the structure of society. The course details the various social processes and concepts that shape behavior, analyzing such phenomena as culture, roles, groups, stratification, deviance, race, population and social change.

SOCSCI-204 Credits: 3

Marriage and the Family

This course is designed to make students aware of relationships and marriage in contemporary society. The basic functions of the family are studied and sociological and psychological principles are applied to family living.

SOCSCI-205 Credits: 3

Social Problems

An interdisciplinary course that, using basic social science vocabulary, examines the history and impact of transmigration, colonialism and principles of intercultural communication, while promoting respectful interactions in diverse contexts. Topics also include: majority/minority relations, ageism, sexism, sexual orientation and

gender differences, and the disabled and the American Disability Act (ADA). Finally, ethnic relations are studied in global and comparative perspectives.

SOCSCI-206 Credits: 3

Introduction to Cultural Anthropology

Students survey the broad field of anthropology with a strong emphasis on culture and its expressions in human societies. Cross-cultural comparison and descriptions based on fieldwork are utilized in order to understand human behavior realistically and without bias.

SOCSCI-207 Credits: 3

Introduction to Criminology

An analysis is made of criminal behavior. Theories of crime causation are examined, as well as crime typologies and crime statistics. The course provides an overview of criminal justice agencies.

SOCSCI-209 Credits: 3

Sociology of Religion

This is an introductory course in the study of religions from the viewpoint of the social sciences. Religion is presented as a universal function of human societies and as an aspect of group behavior.

SOCSCI-210 Credits: 3

Death and Dying

This course will concentrate upon the historical and sociological background of the customs and practices related to death and dying in the United States and other countries; the emotional reactions and adjustments to death and dying; and identification of services and resources.

SOCSCI-214 Credits: 3

Gender and Society

Course offers exploration of the social roles which are ascribed to females and males within society and the social behavior expected within the constraints of femininity and masculinity. Also examines the social processes of creating, maintaining and changing sex/gender roles through the analysis of social institutions and social structures, using both theoretical and experiential perspectives. Students will become familiar with the social forces that help construct personal identity and consciousness, and that shape our belief systems as gendered beings. Gender will be explored on the personal level, the societal level and the global level, with cross-cultural perspectives, as well as the historical roots of gender being presented. Sociological theories will be considered as explanatory tools for understanding the impact of gender and its resulting responsibilities and problems.

SOCSCI-217 Credits: 3

Valuing Diversity

In this course, the emphasis is placed on common elements among individuals and groups of people. Programs will provide

sociological lessons dealing with race, social class, age, gender, sexual orientation and the sociology of minorities.

SOCSCI-221 Credits: 3

American National Government and Politics Today

This introductory course in political science is concerned with the American political process and its institutions: the Constitution, civil rights and freedoms, Congress, the presidency, federal powers and policy-making, the federal judiciary and the election process in American political cultures.

SOCSCI-222 Credits: 3

American State and Local Government

This is a comprehensive course that deals with the organization and functions of state and local governments: state executive, legislative and judicial branches; state constitutions; contemporary intergovernmental relations; differences in regional, rural and urban governments; and the political process at the grassroots level.

SOCSCI-224 Credits: 3

Peoples and Cultures of the World

The course will introduce students to different cultures across the world. It will specifically examine human behaviors and the larger society cross-culturally. The course will be organized thematically, wherein students will explore various cross-cultural applications of social life in one semester. Possible themes of social life include AIDS and society, culture and international development, globalization and society, technology and culture, religion and society, kinship, marriage, art and culture, nationalism, children and society.

SOCSCI-229 Credits: 3

Problems and Programs of the City

This course studies contemporary American urban problems, opportunities and policy alternatives from a political and economic perspective. It looks into the evolution of urban society and its impact on housing, education, unemployment, poverty and race, as well as the suburbanization of America.

SOCSCI-236 Credits: 3

Juvenile Delinquency

The history, philosophy and theoretical framework of juvenile delinquency and the justice system for juveniles are surveyed. Psychological, sociological, biological and environmental factors influencing juvenile delinquency are studied. Significant statutes and Supreme Court decisions are analyzed along with significant research in ethnicity and gender.

SOCSCI-241 Credits: 3

World Geography

This introductory course examines the major regions of the world and their economic, cultural, social and political patterns in relation to the physical resources.

SOCSCI-242 Credits: 3

African-American Social Thought and Culture

This is an introduction to the diversity of African-American social thought and culture. The course includes exploration into the ideologies of prominent African-American social thinkers and sociologists, and the underlying structure and patterns of African-American culture.

SOCSCI-246 Credits: 3

Human Sexuality

This course focuses on the biological, psychological and social perspectives of human sexuality. It is a practical course designed to be applied to the everyday business of living, at home, in school and in the workplace.

SOCSCI-250 Credits: 3

Introduction to Philosophy

This course surveys diachronically the major figures and doctrines of Western philosophy, from classical antiquity to present times. The course also involves discussions of fundamental philosophical questions, especially questions having practical socio-ethical implications.

SOCSCI-330 Credits: 1

Applied Economics and Human Relations

This course focuses on how to prepare for an effective and satisfying life in the workplace, and how a career as a producer and consumer fits into the American and global economy.

SPEECH

SPEECH-201 Credits: 3

Elements of Speech 1

The purpose of this course is the development of speaking skills. Stress is placed upon speech content, organization and delivery. Growth in poise and confidence is a major goal of this course.

SPEECH-203 Credits: 3

Interpersonal Communication

This course applies the theory and principles of one-to-one communication to personal and professional relationships. Topics include gender, self-awareness, verbal and nonverbal communication, conflict management, assertiveness and perception.

SPEECH-206 Credits: 3

Intercultural Communication

The course offers an opportunity to learn how to identify and appreciate cultural differences in terms of communication styles. Students will improve their ability to communicate, both personally and professionally, with others of different cultures.

SPEECH-212 Credits: 3

Introduction to Theater

This course examines the history and development of theater in its various forms. Primarily the course examines the technical

and artistic elements of theater to provide students with a general understanding and appreciation of this art form. Students attend and critique several theater productions.

SURGT–SURGICAL TECHNOLOGIST

SURGT-101 Credits: 1

Surgical Technology Career Exploration

Through lecture and lab, this course is designed to provide an exploration of the surgical technology field. During the class, students develop an understanding of health care practices required during a surgical intervention. Students will also take part in hands-on activities and learn from surgical technology experts. Students leave the course with information needed to make an informed decision about entering the surgical technology field.

SURGT-125 Credits: 4

Introduction to Surgical Technology

This course provides the foundational knowledge of the occupational environment. Principles of sterilization and disinfection are learned. Surgical instruments are introduced. Preoperative patient care concepts are simulated. Lab practice is included. Prerequisite(s): NATSCI-197 (minimum grade C), completion of or concurrent registration in HEALTH-101, and admission to the Surgical Technology program (10-512-1).

SURGT-126 Credits: 4

Surgical Tech Fundamentals 1

This course focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as the student moves into the scrub role. Lab practice is included. Prerequisite(s): Must be admitted to Surgical Technology program (10-512-1), SURGT-125 and completion of or concurrent registration in SURGT-127.

SURGT-127 Credits: 2

Exploring Surgical Issues

This course explores a variety of issues related to surgical technology. Emphasis is placed on becoming a professional member of the surgical team. Prerequisite(s): Must be admitted to Surgical Technology program (10-512-1); completion of or concurrent registration in SURGT-125.

SURGT-128 Credits: 4

Surgical Technology Fundamentals 2

This course focuses on enhancing surgical technology skills while functioning as a sterile team member. Lab and/or clinical practice is included. Prerequisite(s): HEALTH-101 (minimum grade C), SURGT-126, SURGT-127, and completion of or concurrent registration in SURGT-129.

SURGT-129 Credits: 2

Surgical Pharmacology

This course is a basic study of drug classifications, care and handling of drugs

and solutions, application of mathematical principles in dosage calculations, terminology related to pharmacology, anesthesia and drugs used in surgery. Prerequisite(s): Must be admitted to Surgical Technology program (10-512-1); NATSCI-197 (minimum grade C+), either NATSCI-179 or NATSCI-202 (minimum grade C+) and completion of or concurrent registration in SURGT-125.

SURGT-130 Credits: 2

Surgical Skills Application

This course provides a transition from the academic to the clinical setting. Learners integrate the surgical technologist skills as they apply to various surgical procedures. Prerequisite(s): Must be admitted to Surgical Technology program (10-512-1); completion of or concurrent registration in SURGT-128.

SURGT-137 Credits: 4

Surgical Technology Clinical Practice 1

Students apply basic surgical theories, principles and procedural techniques in the operating room. They begin to function as team members under the guidance of the instructor and authorized clinical personnel. Prerequisite(s): SURGT-128, SURGT-130, and the completion of or concurrent registration in SURGT-140.

SURGT-138 Credits: 4

Surgical Technology Clinical Practice 2

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Prerequisite(s): SURGT-137, SURGT-140 and completion of or concurrent registration in SURGT-141.

SURGT-139 Credits: 4

Surgical Technology Clinical Practice 3

During this course, the student functions relatively independently. While transitioning from student to prospective employee, skills performed are commensurate with those of an entry-level surgical technologist. Prerequisite(s): SURGT-138, SURGT-141, and the completion of or concurrent registration in SURGT-142.

SURGT-140 Credits: 2

Surgical Interventions 1A

This course is the first of two courses that provide the foundational knowledge of surgical core and specialty procedures. It examines the pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. Prerequisite(s): SURGT-128 and SURGT-130.

SURGT-141 Credits: 2

Surgical Interventions 1B

This course is the second of two courses that provide the foundational knowledge of surgical core and specialty procedures. It examines the pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. Prerequisite(s): SURGT-140.

SURGT-142 Credits: 4

Surgical Intervention II

Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences and surgical techniques. Prerequisite(s): SURGT-137 and SURGT-141.

SUSTN–SUSTAINABILITY

SUSTN-100 Credits: 3

Sustainable Facilities Operations

This is an accelerated course that covers the overall aspects of what it takes to operate a building in a sustainable fashion in today's complex world. A case is made for sustainability, social responsibility and environmental responsibility. The triple bottom line, Lean, Six Sigma, CMMS, LEED and overall sustainable operations are covered and part of a class project. Students are encouraged to use a project from their work or of personal interest to them. Course requires computer skills in word processing, PowerPoint and spreadsheet.

SUSTN-101 Credits: 3

Environmental Control Technician/Sustainable Energy Technician Practices

This course prepares the student to upgrade, operate and maintain energy management systems and related software and components. The controls used in this course are the latest technologies on the market. While the course focuses on the technological aspects of an energy controls technician, it also addresses customer service and proposal writing.

SUSTN-102 Credits: 3

Reporting and Presenting Systems Performances

This is an accelerated course. Designing, building, maintaining and operating sustainable (green) buildings requires basic measurement and reporting skills. This course emphasizes basic performance parameters of buildings and teaches the basic computer skills (spreadsheets, word processing, PowerPoint and use of Blackboard are required) to be successful in future sustainability courses and in the sustainable building field. Basics of water, energy, material and waste related to buildings will be discussed. Basics of how a building operates and some tools used to assist with optimizing sustainable performance will be discussed.

SUSTN-103 Credits: 3

Commissioning Process for Sustainable Energy Use

This is an accelerated course that takes students through the commissioning process and explains the Commissioning (Cx) Process. Topics include the benefits of Cx and why it is important. Sample documents are developed by students. When complete, participants will have a thorough understanding of the Cx certifications. Course requires knowledge of building mechanical systems and good computer skills (word processing, PowerPoint and spreadsheets).

SUSTN-104 Credits: 3

Energy Auditing and Managing Energy Use

This course takes students through the energy auditing process. Topics include gas, electric and water billing analysis, ASHRAE levels of audits, energy analysis of savings (including Energy Star), developing the energy audit report and presenting it to clients. Actual buildings are audited and used for students to develop reports. Students are encouraged to use a facility they have a connection to, such as where they work. Course requires computer skills in word processing, PowerPoint and spreadsheets.

SUSTN-105 Credits: 3

The LEED Rating System

This is an eight-week accelerated course that explores the LEED rating system, how it is being used to drive sustainable buildings and prepares students for taking the LEED Accredited Professional exam.

SUSTN-106 Credits: 3

Measurement and Verification

This course covers different methods of measuring and verifying energy savings. Emphasis is on the International Performance Measurement and Verification Protocols (IPMVP) and includes hands-on MandV using kWh meters, energy management systems and data loggers. Information covered will prepare the learner to take the national certification exam for measurement and verification. All energy managers know the importance of verifying that projects are working, including promoting success within and outside organizations. This course covers the simple to complex methodologies for measuring success so that systems and projects are documented and managed.

SUSTN-108 Credits: 3

Energy Modeling With eQuest

The course will explore fundamental questions through lectures and hands-on classroom work along with use of eQUEST energy modeling software wizards, leading to understanding buildings as systems that use energy in interconnecting ways. This is an eight-week accelerated course that moves at a fast pace. Prerequisite(s): SUSTN-104.

SUSTN-109 Credits: 3

Intelligent Lighting Systems

This accelerated course is set up to provide information on cutting edge lighting technology and controls. There is a review of lighting concepts followed by an IES (Illuminating Engineers Society) controls course, discussion on controls and protocols and hands-on programming/adjustment of existing lighting control systems. Current technology and the future direction of lighting will be discussed. Lighting controls will be emphasized, including state-of-the-art wireless controls accessed through the internet. The course will also cover daylighting controls, scheduling and occupancy. Course requires computer skills in word processing, PowerPoint and spreadsheet.

SUSTN-111 Credits: 3

Maintenance Management Using Technology in Intelligent Facilities

The course will explore the responsibilities of intelligent facilities maintenance using available technology. Lectures and hands-on classroom work, along with use of maintenance management software, lead to understanding the maintenance requirements and the technology to better manage resources, energy and asset-life. This is an eight-week accelerated course. Course lectures will comprise an integrated overview of the facility manager's responsibilities and the use of a maintenance tracking tool to manage the asset-life-cycle, energy efficiency and overall facility comfort and safety. By combining lectures, maintenance system concepts and HVAC equipment, with hands-on creation of the maintenance model and process analysis, students will be prepared to learn deeper facility-management skills, and apply what they have learned about intelligent facility and maintenance tools.

TDMKG–TOOL AND DIE MAKING

TDMKG-360 Credits: 1

Basic Die Making Technology

This course introduces students to the theories necessary to properly construct basic stamping and forming dies. Part terminology and function are integrated into the format via lecture and discussion.

TDMKG-361 Credits: 1

Advanced Die Making Technology

This course is the continuation of TDMKG-360. It explores the theories necessary for proper die construction of more advanced progressive, inverted and compound dies. Prerequisite(s): TDMKG-360.

TDMKG-362 Credits: 1

Cavity Die Technology

This course introduces the student to the theories involved in proper mold construction in the three major areas of mold building: plastics (thermoset and thermoplastic), diecasting and rubber molds.

TDMKG-366 Credits: 1

CNC Programming 2

This course instructs students in the techniques necessary for proper construction and transmission of a computerized numerical control program via a computer-aided graphics system as it is used in the field of tool and die making. Prerequisite(s): MACHTL-304.

TDMKG-367 Credits: 1

Basic CAD/CAM

Students are introduced to the basic components of a CAD/CAM system, drawing creation and editing using CAD, layering and drawing management, CAD and CAM system interface, file transfer and tool path creation using CAD files on a CAM system. Prerequisite(s): TDMKG-366.

TDMKG-371 Credits: 4

Stamp Die Making 1

Skills and knowledge are developed through the building and tryout of a compound die. Die clearance, alignment and component function are taught through practical hands-on applications. Form dies are also introduced. CNC machining skills are further developed with the emphasis placed on machining processes and techniques for producing die components.

TDMKG-372 Credits: 4

Stamping Die Making 2

This course is a continuance of TDMKG-371, with the student producing a form die and a cam die. Along with the continued focus on CNC machining, surface grinding and form grinding skills are developed beyond the introductory level. As with all of the stamping die-making courses, the student must trial run the completed die.

TDMKG-373 Credits: 4

Stamping Die Making 3

Students will expand upon the stamping die making knowledge developed in the first two courses as they construct a progressive die. Essential die making practices are further developed as the students learn to program and produce die components using the Wire EDM.

TDMKG-381 Credits: 4

Moldmaking 1

Skills and knowledge are enhanced through the machining of various mold components. A wide variety of conventional and CNC machine tools are utilized with instruction that focuses on tolerance and final assembly. Mold component relationship and function are stressed.

TDMKG-382 Credits: 4

Moldmaking 2

This course is a continuation of Moldmaking 1 with a focus on fitting and cavity polishing. Along with continued use of various CNC and conventional machine tools, the RAM EDM is introduced. As with all of the moldmaking courses, the student must trial run the completed mold.

TDMKG-383 Credits: 4

Moldmaking 3

Students will expand upon the moldmaking knowledge developed in the first two courses as they construct a mold that will run in a master unit die. Essential moldmaking practices are further developed as students produce all mold components required for their capstone project.

TRCKDR–TRUCK DRIVING/ COMMERCIAL DRIVING

TRCKDR-341 Credits: 4

Truck Driving 1

This course covers the laws pertaining to the operation of a commercial motor vehicle (CMV). It also focuses on how to properly

inspect a CMV and how to operate one safely. Each student progresses according to his or her own abilities with the assistance of an instructor. Prerequisite(s): Must be admitted to Truck Driving program (30-458-1); completion of or currently enrolled in TRCKDR-342, TRCKDR-343 and TRCKDR-344.

TRCKDR-342 Credits: 3

Truck Driving 2

This course focuses on understanding the paperwork connected with the trucking industry. It also will cover communication skills and security issues. Prerequisite(s): Must be admitted to the Truck Driving program (30-458-1); completion of or currently enrolled in TRCKDR-341, TRCKDR-343 and TRCKDR-344.

TRCKDR-343 Credits: 3

Truck Driving 3

This course further prepares students to obtain a commercial driver's license. Learners have the opportunity to plan trips and manage loading procedures. Weight distribution techniques and security issues are also discussed. Prerequisite(s): Must be admitted to the Truck Driving program (30-458-1); completion of or currently enrolled in TRCKDR-341, TRCKDR-342 and TRCKDR-344.

TRCKDR-344 Credits: 3

Truck Driving 4

This course focuses on continuous improvement. It is designed for students who have successfully obtained a commercial driver's license. Operating skills and the role of a professional truck driver are stressed. Prerequisite(s): Must be admitted to the Truck Driving program (30-458-1); completion of or currently enrolled in TRCKDR-341, TRCKDR-342 and TRCKDR-343.

TV–TV/VIDEO PRODUCTION

TV-101 Credits: 4

TV/Video Studio Production Techniques

This course is a survey of the principles of studio and field television operations, including camera techniques, lighting, sound, control rooms, settings, scenery, properties, floor directing and scripting as applied to operations within the television industry.

TV-105 Credits: 4

TV/Video Field Production Techniques

Basic processes of broadcasting – advertising, ratings, the FCC, history, cable and networks – are examined and provide the student with a working knowledge of the various separate aspects that make up the television industry. Prerequisite(s): TV-101.

TV-107 Credits: 3

Script Writing for Visual Media

Basic concepts of script writing for television, radio and film are presented. Students are encouraged to think in visual terms and to utilize the unique properties of the medium

to communicate these visual impressions. Prerequisite(s): Completion of or concurrent registration in TV-105.

TV-110 Credits: 4

Advanced Production Techniques

Training is provided in the responsibilities of the television producer/director in planning and producing television shows. These relate to program formats, advanced production techniques, costs, technical facilities, crew management and talent selection. Prerequisite(s): TV-105.

TV-112 Credits: 3

Storytelling Via Post-Production

Students are introduced to editing concepts and techniques and are taught to assess and assemble visual sequences into completed segments. Training is provided in pulse-count and time code editing, backspace and computer-based systems, external triggering, list management and simple programming. Prerequisite(s): TV-101 and completion of or concurrent registration in TV-105.

TV-113 Credits: 3

Television Lighting and Set Construction

Students learn television lighting techniques for both in-studio and on-location production situations. Attention is given to television production enhancement through lighting, the use of settings and their design. Practice is also done in shop methods and in set construction. Prerequisite(s): Completion of or concurrently registered for TV-101.

TV-115 Credits: 4

Advanced Broadcast Program Production

All elements of television production are combined to enable students to utilize a wide range of broadcast equipment in the production of both open- and closed-circuit television materials. Emphasis is also placed on applied media aesthetics. Prerequisite(s): TV-110.

TV-119 Credits: 3

Operational Broadcast Engineering

This course is a study of basic television systems and equipment embracing the techniques of camera video operations (registration, color balancing, maintenance, video level control), audio and videotape systems, switchers, audio consoles, microphones, character generators and time-code editors. Prerequisite(s): TV-110.

TV-121 Credits: 3

TV and Video Production Workshop 1

Students are assigned to floor crew positions on WMVS/WMTV programs so that they may obtain "on-the-air" experience in areas where limited TV experience is required. Prerequisite(s): Completion of or concurrently enrolled in TV-105.

TV-122 Credits: 3

TV and Video Production Workshop 2

Students are assigned to responsible crew positions such as floor director, property supervisor, teleprompter operator,

microphone boom operator and camera operator on WMVS/WMTV productions. Each student has the opportunity for “on-the-air” experience. Prerequisite(s): TV-121.

TV-123 Credits: 3

TV and Video Production Co-Op 1

Through this course, advanced practical video experience may be obtained through positions directly related to the student’s career goals. Students may enhance their educational skills through supervised work experience in conjunction with the local broadcast, cable and/or corporate video community. Prerequisite(s): TV-122.

TV-124 Credits: 3

TV and Video Production Co-Op 2

Additional video work experience may be obtained by the student through entry-level positions that lead to advancement, and provide experiences in relevant work situations. Prerequisite(s): TV-123.

TV-130 Credits: 3

Introduction to Computer Editing

This course is designed to provide students with the skills necessary to upgrade their videotape editing techniques through the use of time-code and computer-based edit control. Techniques and practice include split editing, list management and manipulation of general purpose interfaces for external machine control. Prerequisite(s): TV-112.

TV-132 Credits: 3

Advanced Videotape Editing

This course is designed to build upon the techniques learned in TV-130 and to provide students with hands-on experience in high-end edit systems utilized in both online and offline situations. Techniques and practice include system overview, basic editing, setting transitions, edit/review, EDL management, disk management and self-diagnostics. Prerequisite(s): TV-130 or TV-142.

TV-142 Credits: 3

Non-Linear Video Editing and Authoring

This course will focus on editing video footage in a non-linear world and adapting that output for multi-versioned purposes; from tape to DVD to web. Integration of station facilities, using AVID DVExpress Pro, Apple Final Cut Pro and AVID Adrenaline, plus outputting via DVD software will be emphasized. Prerequisite(s): Completion of TV-105 and TV-112, and completion of or concurrent registration in TV-110.

TV-143 Credits: 3

Interactive Content

This course will follow TV-142 and focus on advanced digital broadcast formats, their acquisition and preparation for editing. Goals will be plan, light, shoot and gather field audio in the various high-definition formats, then prepare that material for editing. Lessons will focus on technical differences in ATV vs. NTSC. Prerequisite(s): Completion

of TV-110 and TV-142, and completion of or concurrent registration in TV-115.

TV-144 Credits: 3

Graphic Design for Video Integration

Students will focus on creating graphics for use in broadcast, as well as other video applications; from tape to DVD to web. The class also covers integration of station facilities, using FX/DEKO platform for TV graphics techniques, plus understanding how to use popular software, such as Photoshop, in creating video graphics. Prerequisite(s): Completion of VICOM-150 and TV-105, and the completion of or concurrent registration in TV-110.

TV-145 Credits: 3

Interactive Content Development

This course will follow TV-144 and focus on uniting the many platforms available in interactive design, with traditional video program-content creation. Student goals will be to multiversion broadcast content, learn to interface with graphic artists and software, write content for many platforms, and track and organize materials. Prerequisite(s): TV-110, TV-144.

TV-181 Credits: 1

Video in Society

This orientation course is designed to familiarize entering students with some of the employment and career opportunities, and skills they would acquire through the Television and Video Production program. Prerequisite(s): Completion of or concurrent registration in TV-101.

VICOM–VISUAL COMMUNICATION

VICOM-104 Credits: 3

Multimedia for Computer-Based Training

In this advanced course, students learn the basics of instructional design as it relates to delivering computer based training (CBT). The student learns principles of planning and design of CBT as well as implementation and assessment. CBT authoring tools are introduced and used to create an interactive training module. Prerequisite(s): VICOM-105 and VICOM-135.

VICOM-105 Credits: 3

Multimedia and Web Authoring

This course provides students with no prior flash or programming experience the knowledge and hands-on practice needed to build a rich internet/CD-ROM application with Flash. This course focuses on how to lay out pages, use color and text effectively, work with multiple image types, build navigation and incorporate animation, sound and video. The course also introduces the ActionScript language and teaches students fundamental programming, including constructs variables, conditional logic. Prerequisite(s): VICOM-152 and VICOM-123.

VICOM-106 Credits: 1

Introduction to Web Page Design

Students are introduced to the internet via web browser. This course reviews home page design concepts and looks at technological advances. Students learn the basic software tools found in web page design programs to create a mock-up hypertext-driven web page.

VICOM-108 Credits: 1

Multimedia Scripting Basics

This course introduces students to the basic scripting principles used both in web languages and interactive authoring programs. Topics covered include variables, conditional statements, loops and calculations. Other syntaxes are presented as examples of real-world applications of these structures within their specific context.

VICOM-110 Credits: 3

Introduction to Computer Simulation and Gaming

This course provides students with an overview of the computer simulation and gaming industry. Students will be introduced to the genres, gaming development process, ethics, copyright issues and planning, marketing and management concepts. Emphasis will be placed on game objectives, keeping the player perspective and educational applications.

VICOM-115 Credits: 3

CSG Production

This course provides students with a hands-on team approach to creating games and simulation from the very beginning. Animation-focused students work side by side with programming-focused students to create simple introductory games and simulations on a game engine. Exposure to content requirements, engine limitations, scheduling, deliverables and communications will be emphasized. Teams will be selected and compete against each other. The focus of this class is to perform rapid prototyping of ideas in a challenging environment while developing collaboration skills. Prerequisite(s): Completion of or concurrent registration in VICOM-110.

VICOM-117 Credits: 3

Game Logic and Problem-Solving

This course presents a formal approach to logical thinking and problem-solving using game logic concepts. For students to think logically and solve game play problems, they need to understand game mechanics and game play choices. This means to use logically valid forms of analysis, critical thinking and application concepts to derive new results from those already known to be implemented in the gaming industry. This course will teach these game problem-solving structures in context with fundamental programming structure application.

VICOM-119 Credits: 3

Designing Interactive Displays

This course introduces the students to interactive display systems using a game engine. Focus will be on designing, producing and testing museum-quality programs and simulations for edutainment purposes. This class will also emphasize display design concepts such as lighting, sound, projection, audience interaction, docent design and user interface technology. Students will be immersed in a team and production environment on a real project for a real client. Prerequisite(s): VICOM-115.

VICOM-122 Credits: 3

Introduction to Visual Communications

This course is a survey of technology as applied to the production and delivery of multimedia projects. Computer multimedia systems are examined from a hardware and software standpoint. Applications of graphic technology to instruction, advertising and entertainment are emphasized. Basic skills and concepts needed across the various graphic disciplines are discussed and demonstrated. Career paths and specific job skills within the industry are identified.

VICOM-123 Credits: 3

Website Development

Students use XHTML and CSS to develop basic websites. Then, software tools such as Dreamweaver and Adobe Photoshop are used to create websites. Emphasis is placed on acquiring or creating content, and publishing sites. Commercial sites are evaluated for understanding design and usability. Hands-on projects build toward the completion of a site published to the Web. Prerequisite(s): VICOM-128 and VICOM-150.

VICOM-124 Credits: 3

Content Management Systems

Students will learn web development concepts as they apply to content management systems (CMS). Students develop websites using a variety of open-source CMS tools, such as WordPress, Joomla, Concrete5 and Drupal. For the final project, students will develop a website using an open-source CMS tool. Prerequisite(s): VICOM-108, VICOM-123 and VICOM-128.

VICOM-125 Credits: 3

Advanced Website Development

Students learn JavaScript to develop more robust websites. Students will learn about functions, event handlers, decision statements, cookies and other advanced coding techniques. Advanced behaviors using Adobe Dreamweaver will also be covered. The final project is a website that students will develop with JavaScript and Ajax. Prerequisite(s): VICOM-108, VICOM-123 and VICOM-128.

VICOM-126 Credits: 3

Mobile Web Development

Students learn concepts for information delivery on mobile devices, such as cellular phones, PDAs, laptops and tablet PCs. WYSIWYG tools, such as Adobe Dreamweaver and new adaptable languages, are used to develop websites optimized for viewing on various mobile devices. The final project is a website that students will debug using mobile devices. Prerequisite(s): VICOM-108, VICOM-123 and VICOM-128.

VICOM-127 Credits: 3

Illustrated Storytelling

This course introduces the beginning animation student to concepts such as story development script writing and the ability to create visual storyboards using traditional drawing techniques. Students will also learn to translate their hand-drawn storyboards into animated digital storyboards using Adobe AfterEffects, as well as pitching or selling their ideas for client approval.

VICOM-128 Credits: 3

Web Development with HTML/CSS

Students attain the HTML and CSS skills needed to develop functional websites. Emphasis is placed on writing code, designing with Cascading Style Sheets, debugging and publishing of websites. The final project is a website that students will develop by writing code.

VICOM-129 Credits: 2

CSG Architecture

This course provides students with an overall architectural planning concept of a simulation or game. Students will be introduced to level diagrams, flow control, structure and progression diagrams, assessment tools in educational applications, decision-making mapping. Emphasis will be placed on planning, documentation tracking and process monitoring. Prerequisite(s): ITDEV-110 or ANIM-106.

VICOM-130 Credits: 3

CSG Design

This course offers students an exploration of the fundamentals of simulation and game design. Students will construct a simple game or simulation using industry standards and test-driven design elements. Emphasis will be placed on the planning, development control and testing process of the simulation or game. Educational applications will also be discussed. Prerequisite(s): ITDEV-110, ANIM-106 or VICOM-152.

VICOM-134 Credits: 3

Audio Production

This course provides an overview of basic sound theory used in recording and editing analog and digital audio formats, using Sound Forge and Adobe Premier. Techniques for proper recording, creation of sound effects and editing of audio to video, in addition to planning and writing, are important aspects of this course.

VICOM-135 Credits: 3

Interactive Multimedia Systems

An intermediate course introducing advanced animation techniques. The focus will be on concept-driven animation and creativity. Individual and collaborative project-based assignments provide a basic understanding of the professional production process. Prerequisite(s): VICOM-105.

VICOM-136 Credits: 3

Advanced Multimedia Techniques

The course emphasizes the advanced capabilities of Adobe Flash, using ActionScript object-oriented programming. Students plan, produce and troubleshoot Flash-based applications, which can include websites, games, and touch screen and portable device applications. This intermediate to advanced ActionScript class requires a basic understanding of Flash. Prerequisite(s): VICOM-105.

VICOM-137 Credits: 3

Interactive Video

Desktop digital video, DVD authoring, professional production standards and researching new technologies are components of this class. Students build on knowledge of interface design and multimedia production to create interactive video projects. Prerequisite(s): VICOM-152 and VICOM-154.

VICOM-140 Credits: 2

VICOM Practices

This course prepares students to work in the visual communications field by giving them practical real-job experience in a supportive environment. The fundamentals of résumé-writing, interviewing and phone skills are emphasized. Job search techniques and job site observations are also discussed. Prerequisite(s): VICOM-105.

VICOM-145 Credits: 3

Visual Communications Portfolio

The diversity and caliber of each student's work is assessed, packaged and presented through this course. Students prepare to market themselves in the workplace via the internet, distributable digital media and personal interviews. Participation in an annual portfolio exhibit is required. Prerequisite(s): VICOM-105.

VICOM-150 Credits: 3

Introduction to Digital Media

An introductory course, students work with software and hardware used in the development of multimedia projects. An overview of computer graphics software includes Photoshop, Illustrator and interactive authoring programs. Hardware tools such as scanners, CD writers and printers are covered. Project-based assignments provide a basic understanding of the multimedia production process.

VICOM-152 Credits: 3

Interactive Design for Multimedia

In this course, students gain insight into interactive design. Students learn Photoshop techniques to work with digital images for interactive multimedia applications. Illustrator is used to learn typography for interface design. Professional planning strategies are applied to produce a finished multimedia project. Prerequisite(s): VICOM-150.

VICOM-154 Credits: 3

Digital Darkroom Techniques

In this course, students explore some of the more sophisticated tools and techniques of Photoshop used to correct and modify photographic images. Attention to detail is emphasized in hands-on projects ranging from simple color corrections to complex compositions. Experience using traditional (film) or digital photography is helpful. Prerequisite(s): Must pass the MATC English and math placement test.

VICOM-160 Credits: 3

Advanced Web Programming

Students learn advanced programming and design techniques using Dreamweaver, XHTML and the latest open source language, Ruby on Rails to create, debug and produce a more robust database-driven website. Emphasis is placed on organizing content, developing programming logic and simplifying functionality. Variables, methods, event handlers, conditional statements, loops and calculations are covered in an OOP language easy to learn. Publishing a functional website is the goal of this course. Prerequisite(s): VICOM-125.

VICOM-161 Credits: 3

Action Scripting

This course emphasizes the object-oriented capabilities of Macromedia Flash and teaches students how to use ActionScript objects, methods, events, properties and functions. The student will learn how to plan, produce and troubleshoot a website. This is an intermediate to advanced ActionScripting class that requires a basic understanding of a timeline-based authoring tool. Prerequisite(s): VICOM-105.

VICOM-162 Credits: 3

Database-Driven Web Design

Students learn the application, design concept and production techniques of a database-driven website. Students will use PHP and MySQL on an Apache server that has a Linux operating system to accomplish this. This provides a platform found in many smaller companies that are not Microsoft based. Programming concepts will be taught in PHP and MySQL to connect and talk to the database. The students will use Dreamweaver as the design tool. Publishing a website with database capabilities is the goal of this course. Prerequisite(s): VICOM-108, VICOM-123, VICOM 128.

VICOM-163 Credits: 3

iPhone/iPad (iOS) App Development

Students will learn the basics of the Apple iOS SDK including user interface design, multiview applications, table views, navigation controllers, data persistence, drawing, taps and touches, using libraries and localization. Students will learn to develop several basic iPhone/iPad applications that provide the foundations of developing more advanced applications. Students will also learn about Objective C programming and writing applications for Mac OS interfaces. Prerequisite(s): VICOM-108, VICOM-123 and VICOM-128.

VICOM-164 Credits: 3

Android Application Development

Students will learn the basics of Google's Android SDK including user interface design, multiview applications, table views, navigation controllers, data persistence, drawing, taps and touches, using libraries and localization. Students will develop several basic Android applications that provide the foundations of developing more advanced applications. Students will learn about Java programming and writing applications for Android interfaces. Prerequisite(s): VICOM-108, VICOM-123 and VICOM-128.

VICOM-165 Credits: 3

Advanced Mobile Development

Students will explore advanced mobile design techniques, building upon skills obtained through the prerequisite coursework. Topics will change to stay current with technology advances and industry trends. Prerequisite(s): VICOM-163, VICOM-164.

VICOM-179 Credits: 4

CSG API Programming

This course focuses on OO programming languages and tools used in computer simulations and games. Emphasis is placed on programming concepts used in an existing game engine at the root level of coding. Students will modify existing game code as they develop individual and group mods. Students also create their own object classes to put into the game mechanics. The final project will be focused on team programming and testing. Prerequisite(s): ITDEV-115.

VICOM-180 Credits: 3

Multimedia Collaborative Lab

This course allows students to work on collaborative projects with industry, Discovery World or internal MATC departments. Students apply project management skills and their creative skills to create interactive multimedia applications in learning, training or marketing environments. Students can work in teams or independently while guided by faculty. This process simulates an industry team-oriented work environment where faculty, industry and the students are all part of the project planning, monitoring and evaluation. Prerequisite(s): CSG-181.

VICOM-181 Credits: 4

CSG Collaborative Lab

This course offers students in the Computer Simulation and Gaming program the opportunity to focus on their CSG project in an effort to produce a game module by the end of their fourth semester. This class provides time to just focus on production and testing of the integrated pieces of animation and programming. Prerequisite(s): ITDEV-115 or ANIM-125.

WELD–WELDING

WELD-100 Credits: 1

Fundamentals of Arc Welding

Students develop fundamental knowledge and skill in the safe use of shielded metal arc welding equipment. Typical operations such as bead, butt, lap and fillet welding are performed, using shielded AC and DC straight polarity and reverse polarity electrodes on mild steel plate, in flat and horizontal positions.

WELD-300 Credits: 1

Fundamentals of Arc Welding

Students develop fundamental knowledge and skill in the safe use of shielded metal arc welding equipment. Typical operations such as bead, butt, lap and fillet welding are performed, using shielded AC and DC, straight polarity and reverse polarity electrodes on mild steel plate, in flat and horizontal positions.

WELD-301 Credits: 2

General Arc Welding

Extensive instruction is provided in the making of various types of welded joints in all welding positions. Prerequisite(s): WELD-300.

WELD-302 Credits: 2

Specialized Arc Welding

Emphasis is placed on joint preparation and welding procedures. Proper techniques of using shielded metal arc alloyed electrodes are presented. In addition, preparation, testing and evaluation of coupons that pertain to structural codes are covered. Prerequisite(s): WELD-301.

WELD-305 Credits: 1

Fundamentals of Oxyfuel Welding

Students develop a fundamental understanding and skill in the use of oxyacetylene welding equipment, including safe handling of cylinders of oxygen and acetylene. Such typical operations as joint design and various types of welds are performed with mild steel filler rod. Some instruction is given in manual oxyacetylene cutting of mild steel. Introduction to basic metallurgy for welders is given.

WELD

DEGREE/DIPLOMA/CERTIFICATE COURSE DESCRIPTIONS

WELD-306 Credits: 2

Fundamentals of Gas Tungsten Arc Welding (TIG)

The purpose of this course is to give students a fundamental knowledge of the gas tungsten arc welding process. The basic principles of equipment setup and operation are taught. Instruction is provided on the proper techniques of welding mild steel sheet metal in and out of position.

WELD-307 Credits: 2

Advanced Gas Tungsten Arc Welding (TIG)

This course is designed to give students instruction in the art of TIG welding plate and pipe. Proper equipment operation and setup for nonferrous alloys such as aluminum are also taught. Students also weld stainless steel sheet metal in and out of position. Prerequisite(s): WELD-306.

WELD-310 Credits: 1

Gas Tungsten Arc Welding (TIG)

Instruction is given in inert-gas shielded arc welding with a manually operated torch on such metals as aluminum, mild steel and stainless steel.

WELD-313 Credits: 5

Shielded Metal Arc Welding

Provides industrial application of shielded metal arc welding in all positions on carbon steel. Provides industrial application of thermal cutting on carbon steel. Students apply safety according to industry standards and ANSI A49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard; AWS/ANSI QC-10:2004 Specification for Qualification and Registration of Level 1 Entry-Level Welders. SMAW is one of the four areas of welding concentration in the one-year technical diploma program.

WELD-314 Credits: 5

Gas Tungsten Arc Welding

Provides basic skills in oxy-fuel welding, brazing and cutting on carbon steel. Provides industrial application of gas tungsten arc welding in all positions on carbon steel, stainless steel and aluminum in a lab setting. Students apply safety according to industry and ANSI Z49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard AWS/ANSI QC-10:2004 Specification for Qualification and Registration of Level 1 Entry-Level Welders. GTAW and oxy-fuel welding are one of four areas of welding concentration in the one-year technical diploma program.

WELD-315 Credits: 5

Gas Metal Arc Welding Practices

Provides industrial application of gas metal arc welding in all positions on carbon steel. Provides industrial application of flux cored arc welding in all positions on carbon steel. Students apply safety according to industry standards and ANSI

A49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard AWS/ANSI QC-10:2004 Specification for Qualification and Registration of Level 1 Entry-Level Welders. GMAW and FCAW are two of the four areas of welding concentration in the one-year technical diploma program.

WELD-316 Credits: 5

Layout and Setup Practices

Provides a focus on the development of layout and basic fabrication skills through a sequence of industrial and AWS SESE weldments that involve the use of GMAW, GTAW, FCAW and SMAW. Students will learn to utilize industrial equipment, power tools, band tools and layout tools. Students will apply advanced welding skills. Students apply safety according to industrial standards and ANSI A49.1 Safety in Welding and Cutting. This course is designed in accordance with AWS SENSE national standard AWS/ANSI QC-10:2004 Specification for Qualification and Registration of Level 1 Entry-Level Welders. Layout and Setup Practices is the final area of concentration in the one-year welding diploma program.

WELD-325 Credits: 5

Heavy Plate Practices

This course provides secondary instruction compatible with WELD-327 or WELD-315 from the diploma program in the area of FCAW. Students who complete this welding component along with print reading and math are eligible to take training programs in some of the leading heavy plate employers in the MATC district. Employment is not guaranteed; you must prove your welding skills and core abilities, such as working every day scheduled and arriving on time. All employers engage in strict drug testing that can go back as far as six months, and involve testing for up to 30 drugs. Prerequisite(s): WELD-327 or WELD-315.

WELD-326 Credits: 1

Fundamentals of Semi-Automatic Wire Welding

The student develops fundamental knowledge and skill in the safe use of semi-automatic wire welding equipment. Topics discussed include joint details and distortion control, GMAW weld faults, welding, metallurgy and weld symbol interpretation.

WELD-327 Credits: 2

Specialized Semi-Automatic Wire Welding

In this class, welding skills are developed through the use of the semi-automatic solid and cored wire welding processes such as gas metal arc, flux cored and submerged arc. Prerequisite(s): WELD-326.

WELD-328 Credits: 2

Flux Core Arc Welding

This is a continuation of the concepts and skills in wire welding learned in WELD-327. Emphasis is on out-of-position welding on common joints. Prerequisite(s): WELD-327.

WELD-329 Credits: 4

Flux Core Arc Welding Practice 1

After the successful completion of this course, the student will have the ability to produce multiple pass fillets and grooves with large diameter gas shielded FCAW wires of quality consistent to AWS D1.1 Structural Welding code requirements. Prerequisite(s): WELD-326 and WELD-327.

WELD-330 Credits: 4

Flux Core Arc Welding Practice 2

The student successfully completing this course will have the ability to produce out-of-position welds with FCAW process, carbon arc gouge for full penetration fillet and groove welds consistent with UT and x-ray requirements of AWS D1.1 Structural Welding Code. Prerequisite(s): WELD-329.

WELD-331 Credits: 1

Structural Welding 1

This is a welding shop course for building trade workers. Emphasis is on flat and horizontal position welds to structural code standards. Also emphasized is structural shape cutting using oxyfuel equipment.

WELD-332 Credits: 1

Structural Welding 2

This is a welding shop course that is primarily for the building trade area. Emphasis is on welding vertical and overhead fillet welds to structural code standards. Prerequisite(s): WELD-331.

WELD-333 Credits: 1

Structural Welding 3

This is a welding shop course that is primarily for the building trade area. Emphasis is on welding vertical and overhead vee grooves to structural code standards. Prerequisite(s): WELD-332.

WELD-340 Credits: 2

Welding for Auto Body Technicians

Skills for the auto body shop are stressed during instruction on the use of the oxyacetylene torch, and arc and wire welding equipment to complete bead, butt, lap and fillet welds.

WELD-341 Credits: 1

Welding for Diesel and Powertrain Servicing 1

Students develop a fundamental understanding and skill for the combustion engine shop. Such typical operations as bead, butt, lap and fillet welds are performed with the oxyacetylene torch, and gas tungsten arc welding (TIG) on steel and aluminum. Prerequisite(s): WELD-300.

WELD-342 Credits: 1

Welding for Diesel and Powertrain Servicing 2

The student develops a fundamental understanding and skill for the combustion engine shop. Such typical operations as bead, butt, lap and fillet welds are performed with the gas metal arc welding process. Thermal cutting is covered, along with metallurgy as

it pertains to welding. The setup, operation and maintenance of each process are stressed. Prerequisite(s): WELD-300.

WELD-350 Credits: 1

GTAW Processes

Safe work habits in handling oxyfuel and gas tungsten arc equipment are developed. The principles for applying oxyfuel on different types and sizes of materials in various joint configurations are stressed. Commercial production, handling and storage of compressed gases that are used in GTA and oxyfuel processes are discussed. Introduction to metallurgy is given.

WELD-351 Credits: 1

Shielded Metal Arc Welding Processes

Instruction is offered in the principles of shielded metal arc welding as applied to different types and thicknesses of metals in various joint configurations. The principles of various testing methods for assuring weld quality are also presented, along with the proper techniques and applications of the SMAW process. Introduction to the weldability of metals is given.

WELD-352 Credits: 1

Gas-Shielded Arc Welding Processes

The principles and theory of the semi-automatic wire welding processes as applied to different types and thicknesses of metals in various joint configurations are emphasized. Various testing methods used for assuring weld quality are covered.

WELD-353 Credits: 1

Layout and Setup Techniques

This course is designed for the student or welder who desires to become familiar with the principles of metal fabrication. In this class, the students will be working with blueprints, layout techniques, fabrication methods and assembly techniques in order to construct a weldment. Prerequisite(s): WELD-300, WELD-327, WELD-361, WELD-362 and WELD-380.

WELD-354 Credits: 2

Layout and Print Reading Practices

Develops advanced skills in print reading through utilization of complex industrial prints that feature AWS welding symbols, ISO welding symbols, American Standard dimensions, SI Metric dimensions, isometric drawings, section drawings, material lists and assembly drawings. Students get hands-on experience working with prints related to the work environment for welding. Students will learn to create drawings by utilizing dividers, squares, scales and protractors from existing drawings, written directions and sample mockups. The skills in this course transfer to the Layout and Setup course in the lab. Prerequisite(s): WELD-360 or WELD-361 and WELD-362, and WELD-380.

WELD-360 Credits: 2

Blueprint Reading for Welders

Develops fundamental skills in print-reading through the use of basic lines and views, basic sketching, dimensioning techniques, title block, notes, sections, and details and types of prints. Emphasis is placed on orthographic projection and isometric views to help the learner develop the visual relationship between an object and a print in the first weeks of the course. Students get hands-on experience with prints for analysis of dimensions, welding symbols, material list, parts of a print and all the conventions used in the workplace. Students will learn basic weld joints, welding symbols and knowledge of AWS standards for welding symbols.

WELD-361 Credits: 1

Basic Blueprint Reading for Welders

This fundamental blueprint-reading course covers basic lines and views, simple sketching, notes, sections, and detail and assembly drawings. Emphasis is placed on orthographic projection. Isometric views are also covered.

WELD-362 Credits: 1

Blueprint Reading/Welding Symbols

This course introduces the weld and welding symbol. Joint preparation and all information for the completion of weldments are covered. Welding abbreviations as they relate to the symbols are introduced.

WELD-363 Credits: 1

Advanced Blueprint Reading for Welders

This blueprint-reading course places emphasis on the more complicated blueprint. Pipe welding symbols, metrics, dual dimensioning, destructive and nondestructive testing symbols for weld and material discontinuities are covered. Prerequisite(s): WELD-361.

WELD-371 Credits: 4

Metal Fabrication 1

See the course description on INFOnline at matc.edu. Prerequisite(s): WELD-315.

WELD-372 Credits: 4

Metal Fabrication 2

See the course description on INFOnline at matc.edu. Prerequisite(s): WELD-371.

WELD-373 Credits: 3

Manufacturing Cutting

See the course description on INFOnline at matc.edu. Prerequisite(s): WELD-315.

WELD-374 Credits: 4

Capstone Project in Welding

See the course description on INFOnline at matc.edu. Prerequisite(s): WELD-315.

WELD-380 Credits: 1

Welding Trades Mathematics

This course is designed to provide students with a review of basic mathematical concepts including metrics, averages, percentages,

tolerances, linear and angular measure, area, volume and capacities of metal shapes and fabricated objects. Material weight, stretchout calculations and blueprint calculations for welding-specific applications are studied.

WELD-395 Credits: 1

Layout and Setup for Welders 1

This course is designed for the welder who desires to become familiar with fundamental metal construction as it pertains to welding. Skill is acquired in the use of common hand and power tools in the layout and setup of simple weldments. Prerequisite(s): WELD-361, WELD-362 and WELD-300, or WELD-327.

WELD-396 Credits: 2

Layout and Setup for Welders 2

This course is for the welder who wants to work as a layout/setup welder. Using blueprints, the student constructs weldments, allowing for shrinkage and holding critical tolerances. Prerequisite(s): WELD-395.

WELD-397 Credits: 2

Layout and Setup for Welders 3

Advanced training is given in weldment construction for the layout/setup welder. A strong general mathematics background is desirable for this course due to the more complex construction of the weldments. Prerequisite(s): WELD-396.

WELDTC–WELDING TECHNOLOGY/INDUSTRIAL

WELDTC-101 Credits: 2

Welding Theory 1

This course covers the theory and application of the gas tungsten arc welding, and oxyfuel welding and cutting processes. The major safety standard, ANSI Z49.1 Safety Welding and Cutting, is studied in detail.

WELDTC-102 Credits: 3

Welding Theory 2

This course will cover the theory and process control of the major consumable arc welding processes: SMAW, GMAW, FCAW and SAW. Computer-based information systems are used by students to identify, research and write four technical papers in the lab portion of the course.

WELDTC-105 Credits: 3

Weldability of Materials

This course will examine the characteristics of weldable materials and their properties that affect weldability: "The capacity of a material to be welded under the imposed fabrication conditions into a specific, suitably designed structure and to perform satisfactorily in the intended service" (AWS A3.0). Students will gain the theoretical and technical knowledge needed to research and develop preliminary welding procedures for joining the major weldable materials. Prerequisite(s): Completion of or concurrent enrollment in WELDTC-102.

WELDTC-107**Credits: 3****Fabrication Graphics**

The skills needed to interpret and apply the information conveyed by conventional and computer-generated fabrication blueprints are developed. In this course, students will receive hands-on experience in operating a CAD system to generate and manipulate fabrication databases.

WELDTC-111**Credits: 4****Welding Practice 1**

The purpose of this course is to provide the student with hands-on experience in the setup and operation of the oxyfuel, gas tungsten arc and shielded metal arc processes to weld the basic joints in all positions. Prerequisite(s): Completion of or concurrently registered in WELDTC-101.

WELDTC-112**Credits: 4****Welding Practice 2**

The purpose of this course is to give students hands-on experience in the setup and operation of shielded metal arc, gas metal arc and flux-cored arc processes to weld the basic joints in all positions to commercial and code quality standards. Prerequisite(s): Completion of or concurrent registration in WELDTC-102.

WELDTC-113**Credits: 3****Welding Techniques 1**

The purpose of this course is to give the theoretical and technical knowledge needed to develop, write and qualify welding procedures and welders to written specifications and codes and to pass the National Certified Welding Inspector's Exam. Prerequisite(s): WELDTC-102.

WELDTC-114**Credits: 3****Welding Techniques 2**

Students get hands-on experience in developing, writing and testing welding procedures to the major welding codes. Students also test and qualify welders to the major codes. Prerequisite(s): WELDTC-102.

WELDTC-115**Credits: 3****Welding Quality Systems**

This course gives students experience in using the major quality systems applicable to welding. Emphasis is on interpreting the ISO 9000 series standards as they relate to welding fabrications and developing the documentation skills needed to acquire ISO 9000 series certification for their employers.

WELDTC-116**Credits: 3****Procedure and Welder Qualification/Certification**

This course gives students experience in writing and qualifying welding procedures and qualifying welders. Emphasis is on utilizing computerized code databases to record and track welding procedures and welder qualifications.

WELDTC-117**Credits: 3****Weldment Documentation and Evaluation**

This course gives students experience in constructing and evaluating a weldment to major welding code or specification. Emphasis is on generating all documentation needed for a code weldment, and the development of a welding quality manual for the weldment.

WELDTC-135**Credits: 4****Automated Welding Processes**

Students gain hands-on experience in fixturing, setting up, troubleshooting, programming and operating automated welding equipment including robots and computer-controlled plasma-cutting systems. Prerequisite(s): WELDTC-112 and completion of or currently enrolled in WELDTC-140.

WELDTC-140**Credits: 4****Manufacturing Applications for Robots**

Robots used in manufacturing are studied. Students receive hands-on experience in programming a tool-manipulating robot. Basic mechanisms, hydraulics and pneumatics are covered.

WELDTC-144**Credits: 2****Welding Fundamentals for HVAC**

Students develop fundamental knowledge and skill in the safe use of oxyacetylene cutting and welding, gas tungsten arc welding and shielded rod welding equipment. Typical operations such as bead, butt, lap and fillet welding are performed, using proper procedures and techniques.

Adult High School and High School Equivalency Programs

The MATC Adult High School (AHS) offers a number of opportunities for individuals to resume or continue educational programs. Those 18 and over can resume their secondary education studies and earn a high school diploma or high school equivalency diploma through the MATC Adult High School. Others may enroll in the Adult High School's math or science courses concurrent with their college courses to meet program prerequisites. High school students can take AHS classes for credit recovery outside of their regular school time. Offering a variety of academic and vocational/technical classes, the Adult High School provides students with the foundation for entry-level job skills and postsecondary preparation.

Classes run during the day, evening, Saturday and online during the regular academic year, and day and online courses are offered during the summer. Day and some evening technical classes are scheduled in eight-week quarters; evening academic and online classes run in semesters that are 15 to 16 weeks long. Each credit is equal to one-half of a Carnegie unit, or approximately 4,500 minutes of instruction.

The Adult High School is certified by the Wisconsin Department of Public Instruction, and accredited by the North Central Association Commission on Accreditation and School Improvement (NCA CASI), the accrediting arm of AdvancED, since 1923. The school accepts transferred credits from any nationally accredited high school.

Of the 42 MATC credits needed for graduation, 30 are required and 12 are electives. The diploma granted by the Adult High School is accepted by all colleges and universities throughout Wisconsin and the United States. For more information, call 414-297-7471.

Adult High School Guidance Counseling

The Pre-College Counseling Department is located in Room FH210 of Foundation Hall at the Downtown Milwaukee Campus, 414-297-6779 or 414-297-8377. It is open 8 a.m. – 4 p.m., Monday through Friday, all year. Evening hours are available by appointment. The Pre-College Counseling staff orients, assesses and advises new students; and plans courses with students to meet graduation requirements.

The 42 credits needed for graduation from MATC's Adult High School include:

Communications.....8

Select eight credits from 700-series courses in Communications (COMMHS). One course must be a writing course.

EXAMPLES:

- COMMHS-711 Multicultural Literature 1
- COMMHS-725 Composition
- COMMHS-700 Write to Work

Mathematics 4*

Select four credits from 700-series courses in Mathematics (MATHHS). Two credits of Algebra are required.

EXAMPLES:

- MATHHS-705 Survey of Math Concepts
- MATHHS-716 Algebra 1A
- MATHHS-721 Geometry 1

Computers 1

Select one credit from 700-series courses in computer literacy.

EXAMPLE:

- OFTECH-735 Keyboard, Keypad and Windows

Social Studies 6

Select six credits from 700-series courses in History (HISTHS) or Social Science (SOCHS). Two credits must be earned in American History or Government.

EXAMPLES:

- HISTHS-705 American History 1
- SOCHS-761 Sociology

Science 4*

Select four credits from 700-series courses in Science (SCIHS).

EXAMPLES:

- SCIHS-703 Biology 1
- SCIHS-705 Chemistry 1
- SCIHS-750 Physical Science 1

Career Education 1

Select one credit from 700-series courses in careers (CAREER).

EXAMPLE:

- CAREER-741 Career Preparation and Exploration

Occupation Course.....1

Success Strategies Course.....1

Financial Literacy Course.....1

Physical Education/Health 3

Select three credits from 700-series courses in Health Education (HLTHHS).

EXAMPLE:

- HLTHHS-700 Wellness and Fitness Education

Electives 12**

Select 12 credits in 700-series courses from these subjects: Communications (COMMHS), Health Education (HLTHHS), History (HISTHS), Mathematics (MATHHS), Science (SCIHS) and Social Science (SOCHS). You may also choose elective credits from the 700-series courses in selected occupational subjects, such as: Auto Maintenance Technician (AUTOI), Culinary Arts (CULART), and Motorcycles and Outdoor Power Equipment (SMENG).

TOTAL CREDITS

42

*6 credits, beginning with graduates in 2016-17.

**8 credits, beginning with graduates in 2016-17.

For a full list of course choices, see the Course Descriptions at the end of this section.

SCHOOL OF PRE-COLLEGE EDUCATION

Adult High School Vocational/Technical Programs

The Adult High School provides opportunities for individuals to develop skills and explore career areas through its vocational/technical programs. These programs include automotive, business, computer aided drafting, culinary arts, motorcycle repair, small engines and pre-engineering. The classes are open to any adults; AHS, GED and HSED students; and local high school students through the High School Contract program. Students may take these courses concurrent with their secondary classes. High school students can make arrangements through their counselor at their school. Individuals interested in the Adult High School vocational/technical programs should call MATC at 414-297-7471.

The following is a list of vocational/technical courses and career exploration courses offered in the Adult High School.

Adult High School Vocational/Technical Courses

AUTO1-767	Auto Tune-Up and Emissions (Advanced)
AUTO1-768	Auto Engine Servicing (Advanced)
CULART-741	Culinary Arts Exploration/Co-Op 1
CULART-742	Culinary Arts Exploration/Co-Op 2
CULART-762	Food Service/Culinary Fundamentals 1
CULART-764	Food Service/Culinary Fundamentals 2
MDRAFT-741	Computer Aided Drafting 1
MDRAFT-742	Computer Aided Drafting 2
MDRAFT-743	Architecture Build/Modeling I & II
MDRAFT-746	3D Modeling and Design 1
AUTO1-745	Automobile Electrical Systems
AUTO1-746	Auto Minor Service (Chassis)
AUTO1-747	Auto Tune-up and Emissions
AUTO1-748	Auto Engine Servicing
AUTO1-765	Auto Electrical Systems (Advanced)
AUTO1-766	Minor Service – Chassis (Advanced)
MDRAFT-747	3D Modeling and Design 2
OFTECH-735	Keyboard, Keypad and Windows
OFTECH-739	Business Operations Co-Op 1
OFTECH-740	Business Operations Co-Op 2
SMENG-761	Motorcycles/Outdoor Power Equipment 1
SMENG-762	Motorcycles/Outdoor Power Equipment 2
SMENG-763	Motorcycles/Outdoor Power Equipment 3
SMENG-764	Motorcycles/Outdoor Power Equipment 4

Adult High School Career Exploration Courses

CAREER-710	Exploring Technical Careers
CAREER-719	Healthcare Concepts and Careers
CAREER-740	Success Strategies for School
CAREER-741	Career Preparation and Exploration 1

General Educational Development (GED) Certificate

Preparation classes and services for the GED test are offered days and evenings at all four MATC campuses, and at MATC Pre-College partner community-based organizations (CBOs). Online classes are also available. In addition, there is an accelerated GED option – an intense, eight-week

preparatory program that integrates critical thinking skill development with cross-curricula concentration. Entrance into the accelerated preparatory program requires instructor or counselor recommendation.

The new GED 2014 test consists of four parts: Reasoning through Language Arts (RLA), Mathematical Reasoning, Science and Social Studies.

GED testing centers are located at the Downtown Milwaukee, Mequon, Oak Creek and West Allis campuses. At the Downtown Milwaukee Campus, GED testing is conducted in Room S215 in the Student Center.

If you plan to take the GED test, you must attend an orientation session and academic screening session. Call 414-297-7471.

For information about the GED call: Downtown Milwaukee Campus, 414-297-6233; Mequon Campus, 262-238-2300; Oak Creek Campus, 414-571-4711; West Allis Campus, 414-456-5492.

High School Equivalency Diploma (HSED)

To qualify for entrance into a degree or diploma program, you may enroll in MATC's High School Equivalency Diploma (HSED) and/or General Educational Development (GED) programs. The GED/HSED programs offer excellent opportunities for students to develop academic skills in reading, English, mathematics, science and social studies. Classes are offered at all MATC campuses during the day, evenings and online.

High School Equivalency can also be earned by completing 24 postsecondary credits. For more information, call 414-297-7471.

Program for Emerging Scholars

Wisconsin Statute s.118.15 provides that a student who is 16 years of age or older and meets the statutory definition of being a child-at-risk may take classes leading to a high school diploma at a technical college. For information about this program, call 414-297-8661.

Basic Skills Classes

Classes in the Basic Skills program are designed to help bring reading, writing and mathematics skills up to the 12th-grade level. If you do not have a high school diploma or equivalent, the Basic Skills program and preprogram classes can prepare you to enter an associate degree or technical diploma program, pass your high school equivalency test, or enter the Adult High School.

Courses include basic reading, writing and math, as well as critical thinking and career exploration. The classes in the Basic Skills program are available to students at a minimal tuition charge; some classes are offered as open-entry/open-exit.

Tutoring, English as a Second Language, career advising and access to the Academic Support Center, Writing Lab and Math Lab are available to students. Basic Skills services accommodate our special needs population, including the hearing impaired, visually impaired, and learning disabled. The bilingual program, described here in Spanish and Hmong, includes bilingual tutoring, advising and other support services that

SCHOOL OF PRE-COLLEGE EDUCATION

help you acquire basic skills in your native language while you are gaining proficiency in English.

For more information, see the Course Descriptions at the end of this section, call 414-297-7864 or 414-297-7392, or view School of Pre-College Education information at matc.edu.

Basic Skills Information for Spanish Speakers (Programa Bilingüe de Destrezas Básicas)

El objetivo principal del programa bilingüe de destrezas básicas es mejorar la destrezas de lectura, escritura, aritmética, así como la preparación del estudiante para tomar el examen de equivalencia de escuela superior o secundaria (GED).

Los cursos de este programa son enseñados en el idioma nativo del estudiante facilitando así la transición hacia el inglés.

Una vez registrado en el programa, el estudiante recibirá servicios de tutorial, consejería y, más aún, recibirá el apoyo y atención necesarios para lograr las metas académicas deseadas.

Estos cursos son ofrecidos al público por un costo mínimo y con registración abierta durante todo el año. Para más información comuníquese al teléfono 414-297-8446.

Basic Skills Information for Hmong Speakers (MATC Cov Kev Pab)

Yog koj tseem tsis tau tau koj daim High School Diploma los yog daim GED, Basic Skills yog ib program uas yuav pab kom koj xeeb dhau mus kawm txoj hauj lwj koj nyiam, kom koj xeeb dhau GED, thiab kom koj mus kawm tau rau hauv Adult High School program. Cov kev qhia ntawv hauv Basic skills no tsim los qhia kom koj txawj nyeem ntawv, txawj sau ntawv thiab txawj siv tshuab ntaus ntawv "computer" los mus rau kev xaiv hauj lwj tib si. Cov hoob no yog qhia dawb rau koj xwb. Tseem muaj qee hoob cia koj sau npe kawm thiab rho npe tawm thaum twg los tau. Hos muaj qee hoob qhia raws semester.

Tsis tag li ntawd, MATC kuj muaj neeg pab koj thaum koj tseem kawm ntawv. Lawv yuav pab qhia koj tej qho koj tsis taub zoo, txhais lus rau koj thiab daws koj tej teeb meem.

Yog koj xav paub ntshiv no, hu tus xov tooj 414-297-8147.

Assessment and Advising

Many MATC programs require that students meet basic skills requirements in reading, writing and math before being accepted into a program. When a student does not meet these program requirements, a counselor discusses with the student other options designed to improve these skills.

Placement Assessment

The basic skills course requirements for each student are determined by scores on the college's placement assessment. These assessments help identify the student's academic strengths and weaknesses. After completing the assessment, the student meets with the counselor to review the initial placement and plan for his or her first-semester program.

Basic skills assessment is available to any student. For more information call: Downtown Milwaukee Campus, 414-297-6233;

Mequon Campus, 262-238-2300; Oak Creek Campus, 414-571-4566; West Allis Campus, 414-456-53310.

Basic skills assessment is also available at community-based organizations (CBOs) in the metro Milwaukee area. For CBO locations, call 414-297-6400.

Bilingual Programs and Services

The Office of Bilingual Education provides ongoing academic support and tutorial services to bilingual students enrolled in diploma and degree programs. Academic support services are provided in and out of the classroom, including:

- Admission to MATC
- Bilingual placement/admissions testing
- Scheduling and registration
- Degree, diploma and certificate programs information
- Financial aid information and application
- Information on translation and evaluation of school transcripts
- Counseling referrals
- Test proctoring
- Liaison between instructors and students
- Academic and tutorial support in and out of the classroom

MATC offers courses and programs taught in both Spanish and English. Bilingual courses are offered in business, health, early childhood education and other areas. For a listing of bilingual classes, go to INFOnline at matc.edu.

Bilingual associate degree, technical diploma and certificate programs are available.

English-language courses are offered to prepare students to enter MATC occupational programs such as automotive, air conditioning and heating, baking, cabinetmaking, carpentry and more.

For information about MATC's bilingual classes, programs and services, email michelsb@matc.edu or Vangc5@matc.edu, or call 414-297-7801 or 414-297-8147. The college's Bilingual Education Office is located in Room M224 in the Downtown Milwaukee Campus Main Building.

For information about the GED exams (in Spanish), call 414-297-8446.

SCHOOL OF PRE-COLLEGE EDUCATION

Community-Based and Faith-Based Organizations

In addition to campus-based classes, a network of 42 community-based programs provides onsite basic skills instruction from the 0-12 grade level. These programs are located in many of the city's neighborhoods. For information, call 414-297-6961.

At these outreach classrooms, MATC faculty provide English language instruction, native language literacy for Hmong/Lao and Spanish speakers, bilingual content instruction and family literacy. The locations are equipped with computers to supplement instruction in reading, writing, math and GED. All students have access to MATC counselors, facilities and resources.

Students attend these classes in order to learn new skills or brush up on skills; many students are studying for their GED or HSED. For more information, call 414-297-6961.

English as a Second Language (ESL)/ English Language Learners (ELL)

The English as a Second Language/English Language Learners program can help individuals whose native language is not English. The program has two goals: to prepare students for postsecondary courses and programs; and to help students function more effectively in the community. They can learn in a variety of ways: group, individualized, computer-assisted language learning, Weekend College and online. Depending on their needs, students can choose courses in oral language development, vocabulary improvement, reading and writing skills, pre-employment English and computer skills. They can also get

help in preparing for citizenship. Outreach programs for business and industry are available as well.

ESL Courses Include:

ESL-711	Beginning ESL Literacy
ESL-721	Low Beginning ESL
ESL-731	High Beginning ESL
ESL-751	Low Intermediate ESL
ESL-771	High Intermediate ESL
ESL-791	Advanced ESL
ESL-792	Citizenship Preparation

For information about outreach programs for business and industry, call 414-302-2604.

For enrollment information call: Downtown Milwaukee Campus, 414-297-6583; Mequon Campus, 262-238-2364; Oak Creek Campus, 414-571-4663; West Allis Campus, 414-456-5409.

Each MATC course is identified by a grouping of two to six letters or letters and a numeral, and a set of three numbers.

For example, in the course number **ENGB3-773**, the letters **ENGB3** form the alphabetical code that identifies the subject in which the course is taught. In this example, the course is in English/Level 3. The three numbers 773 identify the type of course – the type of program in which the course is found. In this example, the course is an Adult High School course.

MATC courses numbered in the 700-799 range are Adult High School, Basic Skills and ESL courses.

High School Credit: 4,500 minutes of instruction (75 hours).

Noncredit/Developmental (Basic Skills and ESL): up to 36 55-minute periods of instruction.

School of Pre-College Education Alphabetical List of Subjects With Department Numbers:

AUTO1	Auto Maintenance Technician (404)	ENGB6	English/Level 6 (851)	MDRAFT	Mechanical and Computer Drafting (421)
CAREER	Career Education (862)	ENGPH	English – Post High School (851)	OFTECH	Office Technology (106)
COMMB1	Communications/Level 1 (851)	ESL	English as a Second Language (861)	READB1	Reading/Level 1 (858)
COMMB2	Communications/Level 2 (851)	HISTHS	History – Adult High School (853)	READB2	Reading/Level 2 (858)
COMMB3	Communications/Level 3 (851)	HLTHHS	Health – Adult High School (857)	READB3	Reading/Level 3 (858)
COMMB4	Communications/Level 4 (851)	INDSGN	Interior Design (304)	READB4	Reading/Level 4 (858)
COMMB5	Communications/Level 5 (851)	MACHTL	Machine Shop (420)	READB5	Reading/Level 5 (858)
COMMB6	Communications/Level 6 (851)	MATHB1	Math/Level 1 (854)	READB6	Reading/Level 6 (858)
COMMHS	Communications – Adult High School (851)	MATHB2	Math/Level 2 (854)	READHS	Reading – Adult High School (858)
COMPUB	Computer Basics – Adult Basic Education/ABE (860)	MATHB3	Math/Level 3 (854)	SCIB2	Science/Level 2 (856)
CULART	Culinary Arts (316)	MATHB4	Math/Level 4 (854)	SCIB3	Science/Level 3 (856)
ENGB2	English/Level 2 (851)	MATHB5	Math/Level 5 (854)	SCIHS	Science – Adult High School (856)
ENGB3	English/Level 3 (851)	MATHB6	Math/Level 6 (854)	SCIPH	Science – Post High School (856)
ENGB4	English/Level 4 (851)	MATHHS	Math – Adult High School (854)	SMENG	Small Engine/Mechanic (461)
ENGB5	English/Level 5 (851)	MATPH	Math – Post High School (854)	SOCB2	Social Science/Level 2 (859)
		MCDESG	Mechanical Design (606)	SOCBS	Social Science – Adult High School (859)

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

AUTOMOBILE-MECHANICAL

AUTO1-745 Credits: 1

Automotive Electrical Systems

This course includes basic automotive electrical and fuel systems operations, diagnosis and repair techniques. Hands-on lab work is stressed, utilizing automotive components, mockups and simulators. Classroom instruction is used to reinforce the lab work.

AUTO1-746 Credits: 1

Automobile Minor Service (Chassis)

This course provides training in the areas of brake servicing, front-end repair and alignment, lube service, tire and wheel balancing, and exhaust and cooling system service. The shop is well equipped with state-of-the-art equipment.

AUTO1-747 Credits: 1

Automobile Tune-Up and Emissions

Provides practical shop assignments and demonstrations. Lectures introduce students to the diagnostic and repair procedures used to maintain the ignition, fuel, emissions control, computerized engine control, starting and charging systems for today's automobiles. Work is performed on customer, industry-donated and student vehicles.

AUTO1-748 Credits: 1

Automobile Engine Servicing

This course enables students to describe and identify internal and external parts of an auto engine; describe and identify proper uses of tools used in servicing automobile engines; practice automotive machine shop skills using high-tech boring, and properly fitting all engine parts; and completely assemble an engine on stand and test run it for final engine performance.

AUTO1-765 Credits: 1

Automotive Electrical Systems (Advanced)

This course provides students the opportunity to enhance skills learned in Automotive Electrical Systems through repetition and further independent study. Prerequisite(s): AUTO1-745.

AUTO1-766 Credits: 1

Automobile Minor Service – Chassis (Advanced)

This course provides a student the opportunity to enhance skills learned in Automotive Minor Service through repetition and more detailed work with alignments. Prerequisite(s): AUTO1-746.

AUTO1-767 Credits: 1

Automobile Tune-Up and Emissions (Advanced)

This course provides students the opportunity to learn diagnostic and repair procedures pertaining to the ignition, fuel, emission control, computerized engine control, starting and charging systems. Prerequisite(s): AUTO1-747.

AUTO1-768 Credits: 1

Automobile Engines (Advanced)

This course provides students the opportunity to enhance skills learned in Automobile Engine Servicing through repetition and more hands-on experience. Prerequisite(s): AUTO1-748.

CAREER EDUCATION

CAREER-710 Credits: 1

Exploring Technical Careers

Through presentations in training labs, hands-on shop assignments, and onsite employer visits, students acquire familiarity with the skills, job opportunities, and salary expectations in the electricity/electronics industry. Emphasis is placed on technical careers in these areas.

CAREER-719 Credits: 1

Healthcare Concepts and Careers

This course examines the healthcare industry and explores various health careers. Concepts related to the various health careers such as medical terminology, anatomy and physiology are also included.

CAREER-725 Credits: 1

Career Exploration Seminar

Students engage in self-assessment activities that match their strengths and needs to career choices. Using Web-based information, students research and compare careers with special attention to the educational preparation needed for success. Students will tour MATC, and interview counselors, staff and/or faculty as they prepare a career portfolio. Nontraditional employment receives special attention.

CAREER-726 Credits: 2

Career Exploration – Business

Bilingual students will study Microsoft Windows, MS Word (word processing), MS Excel (spreadsheets), MS Access (database), and MS PowerPoint (presentation graphics) in this course. Students are also introduced to the World Wide Web and email. This is a good course for students having little or no computer background.

CAREER-740 Credits: 1

Success Strategies for School

Students identify the characteristics of a successful student, identify which characteristics they lack, and work to develop those traits. Students identify their learning styles and how they can use their styles to aid themselves in learning.

CAREER-741 Credits: 1

Career Preparation and Exploration 1

Analysis of strengths, weaknesses, personalities, aptitudes, attitudes, etc., is covered. Students match their strengths and needs to job opportunities, and assess job availability. Up-to-date job openings are examined, and students research two careers.

CAREER-742 Credits: 0.5

Career Preparation and Exploration 2

This course explains the steps of applying for and acquiring a job, and acquiring success in the workplace. Students learn how to fill out applications, write résumés and cover letters, and prepare for interviews. Authority and responsibility are discussed.

CAREER-743 Credits: 0.5

Career Preparation and Exploration 3

This course stresses the idea that success in the world of work depends on one's ability to perform the requirements of the position and to get along with others. It helps the students recognize the role that personality plays in the work environment.

CAREER-744 Credits: 0.5

Career Preparation and Exploration 4

This course deals with conflict, stress and discrimination. It is devoted to improvement of employer-employee communications. This module prepares the students for career development and will help them move up the career ladder.

CAREER-750 Credits: 0.1

GED Orientation Career Planning

Class participants are provided an overview of the various options available to those persons seeking high school equivalency diplomas. This class, which must precede the taking of the GED/HSED tests, also includes interest inventory and career decision-making activities that help participants develop a better focus on career options based on backgrounds, skills and job trends.

CAREER-757 Credits: 0.1

GED 2 Employability Skills

This course is designed to acquaint high school equivalency diploma students with major employment trends in the 21st century. In conjunction with the review and completion of sample applications, students are introduced to varied résumé and cover letter formats. Opportunities to explore the interview process are also provided, plus information on available resources pertaining to the development of academic, personal management and teamwork skills.

CAREER-799 Credits: 2

The Path to College Success

The path workshop is a psychosocial workshop created by the MATC counselors to provide an intervention for students who are suspended from college. The workshop helps students identify their goals and passions; identify the barriers to reaching these goals; identify resources and action which will address their barriers. The student fills out a contract for success and this is included in their academic appeal.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

COMMUNICATIONS – LEVEL 1

COMMB1-711 Credits: 4

Basic Communications 1

Level 1 Communications emphasizes writing simple notes and messages on familiar situations. Students who successfully complete Level 1 Communications achieve beginning basic education benchmarks according to NRS guidelines.

COMMB1-712 Credits: 5

Oral Communications

This is an oral language development course. Students learn English vocabulary and grammatical conventions through listening, conversing and presenting information. Course content is developed around themes of employment, citizenship, education and health.

COMMUNICATIONS – LEVEL 2

COMMB2-721 Credits: 4

Basic Communications 2

Level 2 Communications emphasizes basic writing tasks related to life roles, such as completing medical forms, order forms and job applications. Students write short reports and messages to fellow workers. Students self-edit and peer-edit for spelling and punctuation. Students who successfully complete Level 2 Communications achieve low intermediate education benchmarks according to NRS guidelines.

COMMB2-755 Credits: 3

Basic Communications for Workplace Learning

This course is open-entry, open-exit, individualized, computer- and video-aided instruction in the areas of reading, critical thinking, writing, listening, speaking, interpersonal-intrapersonal, small-group interaction and team development, with emphasis on needs of the workplace.

COMMUNICATIONS – LEVEL 3

COMMB3-731 Credits: 4

Basic Communications 3

Level 3 Communications emphasizes writing simple narrative descriptions and short essays on familiar topics. Students complete forms, such as job applications, and strive for consistent use of basic grammar and punctuation. Students who successfully complete Level 3 Communications achieve high intermediate education benchmarks according to NRS guidelines.

COMMB3-798 Credits: 5

Communication Skills for the GED

In preparation for the GED exam, the student explores issues, concepts and strategies relevant to an understanding of social studies, language arts/reading and language arts/writing. Course contents are utilized as a context for the development of critical thinking skills. Prerequisites: Eighth-grade reading level.

COMMUNICATIONS – LEVEL 4

COMMB4-741 Credits: 4

Basic Communications 4

Level 4 Communications emphasizes writing complete compound and complex sentences, personal notes and letters that accurately reflect thoughts. Learners strive for writing that is organized and cohesive with few mechanical errors. Students who successfully complete Level 4 Communications achieve low adult secondary education benchmarks according to NRS standards.

COMMUNICATIONS – LEVEL 5

COMMB5-751 Credits: 4

Basic Communications 5

Level 5 Communications emphasizes using varied and complex sentence structure with few mechanical errors. Writing is cohesive with clearly expressed ideas supported by relevant detail. Students who successfully complete Level 5 Communications achieve high adult secondary education benchmarks according to NRS guidelines.

COMMUNICATIONS – LEVEL 6

COMMB6-761 Credits: 4

Basic Communications 6

Level 6 Communications emphasizes creating written documents, including a research paper. Learners express both written and spoken ideas in a clear, concise manner in a variety of settings. Learners who successfully complete Level 6 Communications are prepared to enter postsecondary education and/or obtain and maintain employment.

COMMUNICATIONS – ADULT HIGH SCHOOL

COMMH5-700 Credits: 1

Write to Work

The student will learn the components of marketing oneself for employment and mastering workplace writing once employment is gained. Students will gather, analyze, organize information and generate a variety of written assignments. Students will explore the importance of specific writing skills in their chosen occupation.

COMMH5-703 Credits: 1

World Literature 1

The major focus is short fiction, poetry and drama. Students learn literary terms and story elements, and will develop an understanding of the characteristics of various literary genres. Students will explore the works of culturally diverse authors, playwrights and poets.

COMMH5-704 Credits: 1

World Literature 2

This course is a continuation of World Literature 1. Skills are built that go beyond

World Literature 1 by delving deeper into other selections from authors representing a global view in literature. Writing is done using a word processor and reviewing mechanics of good writing.

COMMH5-705 Credits: 1

American Literature 1

During this junior-level English course, American literature from the American Colonial Period to post-Civil War days is studied. A sampling of authors studied will include Nathaniel Hawthorne, Henry Wadsworth Longfellow, Louisa May Alcott and Chief Joseph. The mechanics of writing are reviewed as applied to story responses through word-processed compositions.

COMMH5-706 Credits: 1

American Literature 2

During this junior-level English course, the study of American literature is continued, covering the mid-1800s to modern times. Authors studied include Langston Hughes, Robert Frost, Walt Whitman and Richard Wright. Writing complete and effective sentences is reviewed to enhance word-processed compositions.

COMMH5-711 Credits: 1

Multicultural Literature 1

This course will study the rich literary genres of a variety of cultures such as African American, Chinese, Indian, Japanese, Jewish, Korean, Latino/Hispanic and Native American. Biographies, essays, poetry and short fiction readings may be supplemented by films to provide a broader appreciation of the literary contributions made by a variety of noted world authors.

COMMH5-712 Credits: 1

Multicultural Literature 2

Students read and discuss authors of a variety of cultural backgrounds, such as Amy Tan, Richard Wright and Zora Neal Hurston. Students review the mechanics of good writing, including capitalization, punctuation and quotation marks, in order to enhance their weekly word-processed compositions.

COMMH5-713 Credits: 1

Science Fiction Literature

This English class reads, discusses and analyzes science fiction short stories, novels and films. This course is designed to help students think about the impact rapid changes in medicine, technology and science will have on their future. Science fiction classics by Isaac Asimov, Ray Bradbury, H.G. Wells, George Orwell, Arthur Clarke, and other noted writers are introduced to students. Based on their readings, students will complete three written reports.

COMMH5-725 Credits: 1

Composition

This course prepares students to compose materials for common purposes and audiences. It provides instruction in the

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

process of writing and the practice of the specific skills needed to communicate effectively for writing in academic and occupational settings. The student will review basic grammar, sentence structure, and paragraph development to serve as a stepping stone for perfecting writing skills. Students further develop essay writing skills.

COMMHS-730 Credits: 1

Language Arts Communication 1

This English class is a combination of literature, grammar and writing. Short stories, poems and plays will be read and discussed. Grammar lessons of sentence structure, parts of speech, punctuation and spelling will be taught and incorporated into writing activities. Students learn to understand and appreciate literature and to develop their writing skills.

COMMHS-731 Credits: 1

Language Arts Communication 2

This English class is a combination of literature, grammar and writing. Short stories, poems and plays will be read and discussed. Grammar lessons of the parts of speech, phrases, clauses, sentences and punctuation will be reviewed and incorporated into writing activities. Students learn to understand and appreciate literature and to develop their writing skills.

COMMHS-732 Credits: 1

English Review and Mastery

This English class is an intense review of grammar, punctuation, capitalization, phrases, clauses, sentence structure, spelling and vocabulary with a writing component. Writing assignments will include writing paragraphs, business letters, a résumé, reports and a research paper.

COMMHS-735 Credits: 1

Communications Via the Media

Students work to develop an understanding of the nature, techniques and impact of the mass media, as well as to develop an understanding of the nature and importance of media literacy in today's society. Emphasis is placed on news providers, particularly newspapers. Students practice written communication skills by writing a variety of features common in the newspaper.

COMMHS-750 Credits: 1

Speak for Yourself

This is a speech class designed to emphasize the importance of speaking well to facilitate effective communication. It will give students an opportunity to prepare and deliver speeches. The speeches will focus on everyday situations that one might encounter in family living, at school, at church, at work, in the community, and in the world. It will stress that effective communication skills are relevant and very pertinent to being successful.

COMMHS-755 Credits: 1

The Internet and Communication

Learn what you need to know to use the internet effectively at home, school and work. Learn etiquette for writing email, as well as how to use common features of email programs, including organizing mail, sending attachments and using an address book. Don't just surf the Web, learn how to conduct effective searches, evaluate the information you find and protect your privacy. Compose and publish your own web pages. Increase the effectiveness of your website by including pictures and video, using cameras, scanners and graphics programs.

COMMUNICATIONS – POST HIGH SCHOOL

COMMHP-777 Credits: 4

Post High School Communication

This communications course is designed for high school graduates who require remedial work in communications to bring their Sentence Skills assessment scores to a 60 or better PLI or 76 to enter their program of choice.

COMPUTER BASICS

COMPUB-701 Credits: 1

Computer Basics – Adult Basic Education

This introductory course to computers requires no prior experience. Students learn basic functions, terminology, applications, and use of the keyboard and mouse. Topics covered are the history of the computer, computer terminology, operating system, hardware components, software packages, and mouse dexterity. Students create simple documents in Microsoft Word. Prerequisite(s): Must be enrolled in a Basic Skills course.

CULINARY ARTS

CULART-741 Credits: 1

Culinary Arts Exploration/Co-Operative 1

This course focuses on introductory food service information and preparation. Key topics are food safety guidelines, sanitation, an introduction to tools and equipment, and basic principles of cooking and baking.

CULART-742 Credits: 1

Culinary Arts Exploration/Co-Operative 2

This course concentrates on basic nutrition principles used in menu planning, cooking and baking. Special dietary menu and recipe adjustments are covered, as well as standard recipe conversions. Sandwich preparation, starch cookery, beverages and intermediate baking are explored.

CULART-743 Credits: 1

Culinary Arts Exploration/Co-Operative 3

Purchasing and inventory control procedures in food service operations are studied.

Fish and seafood cookery, garde manger work with fruits and vegetables, and more advanced baking are the focus.

CULART-744 Credits: 1

Culinary Arts Exploration/Co-Operative 4

Food-service business methods such as merchandising, customer relations and restaurant operations will be studied. Advanced garde manger, international cuisines, meat cookery, and yeast dough baking are the lab focus.

CULART-762 Credits: 1

Food Service and Culinary Fundamentals 1

Students enrolled in the food court class are presented opportunities to learn food production and customer service skills in an actual on-the-job cafeteria setting at MATC. The classroom is used in conjunction with the cafeteria setting to teach skills needed to prepare food products and to introduce students to the fundamentals of safety and sanitation used in a commercial kitchen.

CULART-764 Credits: 1

Food Service and Culinary Fundamentals 2

This course allows students the opportunity to enhance skills learned in Short-Order Specialty Sandwich 1, allowing the student more hands-on experience.

ENGLISH – LEVEL 5

ENGB5-752 Credits: 4

Advanced Grammar and Usage

Targeted to non-native speakers of English, this course emphasizes oral communication. It explores the system of English grammar and the connection of grammar to reading, writing and understanding. This course also emphasizes sentence structure. Prerequisite(s): Consent is required to enroll in this course.

ENGLISH – LEVEL 6

ENGB6-762 Credits: 4

Pre-College Writing

This pre-college course provides instruction and practice in narrative, expository and persuasive writing, using the writing process. Revision skills emphasize the use of compound and complex sentence structure, transitions and appropriate word choice. Grammar mechanics and usage are reviewed. Development of a writing portfolio and oral presentation are required.

ENGLISH – POST HIGH SCHOOL

ENGP-771 Credits: 5

Academic Transition Lab: Communications

This course is designed for students who have graduated from high school, or GED or HSED, who do not earn a high enough assessment reading score to enter their desired college program.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

ENGLISH AS A SECOND LANGUAGE

ESL-711 Credits: 5

Beginning ESL Literacy

This course is designed for those students who have minimal reading and writing skills in their native language and have no proficiency in oral or written English.

ESL-721 Credits: 5

Low Beginning ESL

This course is designed for those students who have minimal proficiency in oral or written English.

ESL-731 Credits: 5

High Beginning ESL

This course is designed for students who have some ability to function in a limited capacity in oral or written English, but still need assistance.

ESL-751 Credits: 5

Low Intermediate ESL

Individualized instruction and group study options offer opportunities for improvement in oral and written English for non-native speakers of the language. A pre-employment and/or preacademic focus is offered using a variety of instructional strategies.

ESL-771 Credits: 5

High Intermediate ESL

This course is designed for students who function independently in oral and written English but need more consistency in the control of language skills.

ESL-791 Credits: 5

Advanced ESL

Individualized and group study options offer opportunities for improvement of oral and written English for more advanced non-native speakers of English.

ESL-792 Credits: 2

Citizenship Preparation

This course is structured for those who wish to become U.S. citizens. Instruction will focus on important events in U.S. history, and on the organization and functions of federal, state and local governments. There will be practice in writing basic English sentences needed for the citizenship test.

HISTORY – ADULT HIGH SCHOOL

HISTHS-705 Credits: 1

American History 1

The history of the American people from 1400 to 1876 is covered. The course includes a careful study of the sectional controversy and the Reconstruction period that followed the Civil War.

HISTHS-706 Credits: 1

American History 2

In covering major developments in United States history from the 1870s to today, the

topics surveyed are: Industrialization, the Progressive Era, Imperialism, World War I, the 1920s, the Depression and World War II.

HISTHS-707 Credits: 1

World History

The course will introduce students to a global view of human development from prehistoric times to 1900. Selected ancient civilizations include Mesopotamia/Iraq, Macedonia, Egypt, Africa, Greece, Rome, India, China, Japan and Oceania.

HISTHS-711 Credits: 1

Current History

Current local, national and international events and problems of importance are considered. Emphasis is placed upon each citizen's obligation and responsibility to become well informed and to be an active member of his/her community.

HISTHS-715 Credits: 1

African-American History

This course examines the impact of African-Americans on America's social, economic, political and psychological development. The student is also introduced to various contributions made by African-Americans in politics, economics, art, literature and music.

HEALTH EDUCATION – ADULT HIGH SCHOOL

HLTHHS-700 Credits: 1

Wellness and Fitness Education

This lecture and lab course provides students with a contemporary approach to the total wellness concept, which includes physical, emotional, occupational, spiritual and environmental components. Students develop personal plans for lifetime wellness.

HLTHHS-711 Credits: 0.6

Adult Recreation 1

The class is designed to introduce students to the benefits of participation in fitness and sports activities. The course will expose students to a broad array of recreational opportunities, emphasize instruction and participation rather than competition, and introduce concepts that have potential for lifetime use.

HLTHHS-712 Credits: 0.6

Adult Recreation 2

This course is designed to further develop recreational skills and individual fitness techniques. Prerequisite(s): HLTHHS-711.

HLTHHS-730 Credits: 0.5

Health for Adults

This lecture course helps students make a realistic appraisal of their health and supplies them with strategies to improve nutritional awareness, stress management and physical fitness.

HLTHHS-744 Credits: 2

CPR and First Aid

This course develops lifesaving skills needed to become certified in American Heart Association Heart Saver and first aid. Skills include techniques for adult, child and infant victims. Successful course completion will result in a two-year certification.

HLTHHS-751 Credits: 0.4

Body Conditioning 1

This activity class provides students with specific training techniques used to develop and enhance muscular strength and endurance. The focus is on improving fitness as well as preparing for the physical demands of daily living.

HLTHHS-752 Credits: 0.4

Body Conditioning 2

This course teaches advanced strategies of body toning and progressive resistance training. Prerequisite(s): HLTHHS-751.

HLTHHS-763 Credits: 0.5

Dance/Aerobic Fitness 1

This course is a series of choreographed exercises to music with vigorous, continuous dance movements that strengthen the cardiovascular system. These exercises enhance flexibility, muscle conditioning and enhance weight control.

HLTHHS-764 Credits: 0.5

Dance/Aerobic Fitness 2

This course is a series of choreographed exercises to music with continuous, rhythmic aerobic movement; the advanced variations and styles enhance cardiovascular endurance, flexibility, muscle conditioning and weight control.

INTERIOR DESIGN

INDSGN-700 Credits: 1

Introduction to Interior Design

The principles of interior design are studied and applied to interior environments. Major emphasis is on solving interior problems utilizing the fundamentals of design. The course topics include furniture history, spatial planning, blueprint reading and color board presentations.

MACHINE SHOP

MACHTL-716 Credits: 1

What Is Engineering? 1

Students will learn what math, science and communication skills are needed for engineering and other technology careers through real-world problem-solving. Students design and build projects illustrative of several technological career areas including: mechanical design, simple machine energy transfer, kinematics and robotics. Hands-on projects include: bridge building, ballistic devices, 3D animated design, robotic building and programming. Through these

PRE-COLLEGE EDUCATION COURSE DESCRIPTIONS

projects students experience the real-world applications of the math and science concepts. Exposure to current marketing and presentation principles will also be included.

MACHTL-717 Credits: 1

What Is Engineering? 2

Students will learn what math, science and communication skills are needed for engineering and other technology careers through real-world problem-solving. Students design and build projects illustrative of several technological career areas including: pneumatics, mechanical design software, civil engineering/surveying and more advanced robotics. Through these projects, students experience the real-world applications of the math and science concepts. A final comprehensive project will incorporate skills learned, plus current marketing and presentation principles. Prerequisite(s): MACHTL-716.

MATHEMATICS – LEVEL 1

MATHB1-714 Credits: 4

Basic Arithmetic 1

Level 1 Mathematics develops number concepts, mathematical language and whole number topics. Participants learn to count, add and subtract three-digit numbers, and perform multiplication through 12. They identify simple fractions and perform other simple arithmetic operations. Students achieve beginning basic education benchmarks according to NRS guidelines. Prerequisite(s): 4.0 math grade level.

MATHEMATICS – LEVEL 2

MATHB2-724 Credits: 4

Basic Arithmetic 2

Level 2 Mathematics emphasizes the four basic math operations, using whole numbers up to three digits. Students can identify and use all basic mathematical symbols. They use critical thinking skills to problem solve, perform computations, estimate results, and to apply mathematics to real-world situations. Students achieve low intermediate basic education benchmarks according to NRS guidelines.

MATHB2-755 Credits: 1

Mathematics for Workplace Learning Centers

This course provides open-entry, open-exit, individualized instruction in the areas of math, science, problem-solving, and introduction to computers with a focus on the changing needs of the workplace.

MATHEMATICS – LEVEL 3

MATHB3-734 Credits: 4

Basic Arithmetic 3

Level 3 Mathematics emphasizes the four basic math operations, using whole numbers and fractions. Students can determine the correct operation for solving narrative math

problems, and can convert fractions to decimals and decimals to fractions. Students achieve high intermediate basic education benchmarks according to NRS guidelines.

MATHB3-798 Credits: 5

Mathematics for GED

The student examines and demonstrates competency in topically organized and content-based coursework in mathematics/science. General science concepts and strategies will be reviewed. A concentration on arithmetic, basic algebra and geometry comprises the math component.

MATHEMATICS – LEVEL 4

MATHB4-744 Credits: 4

Basic Arithmetic 4

Level 4 Mathematics emphasizes all basic math functions and introduces simple algebraic equations. Students can perform all basic math functions with whole numbers, decimals and fractions. They can interpret and solve simple algebraic equations, tables and graphs and can develop their own tables and graphs, and can use math in business transactions. Participants achieve low adult secondary education benchmarks according to NRS guidelines.

MATHEMATICS – LEVEL 5

MATHB5-754 Credits: 4

Basic Arithmetic 5

Level 5 Mathematics emphasizes applying mathematical concepts, including algebra, geometry, trigonometry and probability. Students make mathematical estimates of time and space and apply the principles of geometry to measure angles, lines and surfaces. Students achieve high adult secondary education benchmarks according to NRS guidelines.

MATHEMATICS – LEVEL 6

MATHB6-764 Credits: 4

Basic Arithmetic 6

Level 6 Mathematics emphasizes analyzing non-routine problems and arriving at a solution by various means. Students apply algebraic, geometric and trigonometric functions to solve problems.

MATHEMATICS – ADULT HIGH SCHOOL

MATHHS-701 Credits: 1

General Mathematics 1

This course deals with whole numbers (0,1,2,3,...), fractions and decimals. Topics include reading, writing and defining these numbers, as well as performing addition, subtraction, multiplication and division on them. Application of all these topics as related to everyday life situations is explored.

MATHHS-705 Credits: 1

Survey of Math Concepts

Are you experiencing difficulty remembering your basic (but important) math skills? If so, this course is for you. Topics covered include a review of the properties of the operations on whole numbers, decimals and fractions. Ratios, proportions and percents are reviewed. Also covered are some algebraic topics such as algebraic terminology, exploration of exponents, practice with the order of operations and an introduction to simple linear equations. Applications of these tools to daily life situations also are explored.

MATHHS-707 Credits: 1

Consumer Math

This course is designed to help you with everyday consumer math skills; math you should and do use all the time. You will learn a wide variety of personal and business math skills.

MATHHS-716 Credits: 1

Algebra 1A

This course is equivalent to the first semester of first-year algebra. It begins with performing the basic operations (addition, subtraction, multiplication and division) on signed (+ and -) numbers. The course covers basic algebraic terminology, evaluating expressions, solving equations and inequalities with one variable (letter), and performing the basic operations on expressions.

MATHHS-717 Credits: 1

Algebra 1B

This course is equivalent to the second semester of first-year algebra. It begins with the different methods of factoring, and applying these methods to solve quadratic equations and work with rational expressions (algebraic fractions). This work includes simplifying (reducing) them, setting up and solving proportions, and performing the basic operations of addition, subtraction, multiplication and division on them. Prerequisite(s): MATHHS-716.

MATHHS-721 Credits: 1

Geometry 1

This course covers Euclidean geometry with topics on angle relationships, perpendicular and parallel lines, and polygons. The deduction system is used to establish theorem statements, using direct and indirect proof. Prerequisite(s): MATHHS-717.

MATHHS-722 Credits: 1

Geometry 2

This course is equivalent to the first semester of high school geometry. Topics covered include similar polygons, right triangles, circles, and some right triangle trigonometry. The formulas for finding the areas of plane figures, and the area and volume of solid figures are developed and applied.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

MATHHS-731 Credits: 1

Digital Logic for Electronics

This is an introductory course in digital logic. Students learn the logic functions through circuit-construction lab work and computer circuit-simulation software. Math content includes fundamentals of number systems through tables, basic Boolean algebra and Karnaugh maps used to explain and develop electronic circuits. The final project is assembling a programmable sensing robot. Students will find this class a helpful introduction to college-level digital electronics and an interesting exploration of the way electronic devices work.

MATHHS-742 Credits: 1

Computer Applications

This is a good beginning course that covers computer terminology and uses Windows. Topics include working with a word processor, spreadsheet and database. Math skills are applied in the spreadsheet and database sections. Prerequisite(s): One year of high school mathematics.

MATHHS-745 Credits: 1

Advanced Algebra 1A

This course is equivalent to the third semester of high school algebra. The review consists of operations of real numbers, solving linear and quadratic formula/equations, inequalities, operations with rational equations and complex fractions. Proficiency in the following advanced algebra topics – understanding graphs of linear and quadratic form, recognizing and applying mathematical patterns, sequences, linear models, functions, relations and transformations – are relevant in mastering postsecondary mathematical academic standards.

MATHHS-755 Credits: 1

Advanced Algebra 1B

This course is equivalent to the second semester of the second year of algebra. Topics include counting techniques and probability, a study of quadratics (the parabola, circle, ellipse, and hyperbola), the solution of three equation systems of lines and of non-linear systems, and the study of matrices, determinants, and exponential and logarithmic functions.

MATHEMATICS – POST HIGH SCHOOL

MATPH-701 Credits: 1

General Mathematics 1

A study is made of addition, subtraction, multiplication and division of real numbers. Topics include ratio and proportion, fractions and decimals. The course reviews basic arithmetic concepts and establishes the concepts required for taking a future course in algebra.

MATPH-705 Credits: 1

Survey of Math Concepts

Are you experiencing difficulty remembering your basic (but important) math skills? If so, this course is for you. Topics covered include a review of the properties of the operations on whole numbers, decimals and fractions. Ratios, proportions and percents are reviewed. Also covered are some algebraic topics such as algebraic terminology, exploration of exponents, practice with the order of operations, and an introduction to simple linear equations. Applications of these tools to daily life situations also are explored.

MATPH-706 Credits: 1

Applied Mathematics

This course focuses on using mathematics for work-related or other problem-solving situations. It will cover a variety of types of mathematics. It is not intended as a substitute for an in-depth course in any of the areas covered.

MATPH-707 Credits: 1

Consumer Mathematics 1

The course develops the computational skills that students need as consumers. The student learns to deal successfully with a wide variety of personal and business mathematical situations.

MATPH-716 Credits: 1

Algebra 1A

This course has a brief review of fractions and decimals. The main course consists of the basic operations with real numbers, evaluating algebraic expressions, solving equations and inequalities with one variable, and operations with algebraic expressions.

MATPH-717 Credits: 1

Algebra 1B

This course begins with factoring and the solution of quadratic equations by factoring. It also includes rational expressions, and ratio and proportion, and concludes with operations with algebraic expressions involving fractions. Prerequisite(s): MATHHS-716 or MATPH-716.

MATPH-721 Credits: 1

Geometry 1

A Euclidean geometry course with topics on angle relationships, perpendicular and parallel lines, and polygons. The deduction system is used to establish theorem statements, using direct and indirect proof. Prerequisite(s): MATHHS-717.

MATPH-722 Credits: 1

Geometry 2

In this course, Geometry 1 is extended to include similar polygons, right triangles, circles, construction, and logic. Sets that describe areas and volumes, as well as the formulas for such sets, are presented.

MATPH-731 Credits: 1

Digital Logic for Electronics

This is an introductory course in digital logic. Students learn the logic functions through circuit-construction lab work and computer circuit-simulation software. Math content includes fundamentals of number systems through tables, basic Boolean algebra and Karnaugh maps used to explain and develop electronic circuits. The final project is assembling a programmable sensing robot. Students will find this class a helpful introduction to college-level digital electronics and an interesting exploration of the way electronic devices work.

MATPH-742 Credits: 1

Computer Applications

The features of a spreadsheet, database and word processor are covered using formulas to do complex calculations and charts. Students will learn the logic of setting up fields and querying a database. They will integrate this database and spreadsheet into a word processing document.

MATPH-771 Credits: 5

Academic Transition Lab: Math

This course is designed for students who have graduated from high school, or GED or HSED, who do not earn a high enough assessment math score to enter their desired college program.

MATPH-777 Credits: 4

Post High School Math

This course is designed for high school graduates who require remedial work in math to bring their assessment scores to the level needed to enter PLI or their program of choice.

MECHANICAL TECHNOLOGY

MCDESG-715 Credits: 2

What Is Engineering? Principles of Engineering

In this course, students will learn material testing, optical sensor technology. Hands-on projects will include bridge building, robotic systems, kinematics actions, hydraulic applications and field experience. Students will learn real-world applications of engineering with direction links to two- and four-year educational options.

MECHANICAL DRAFTING

MDRAFT-741 Credits: 1

Computer-Aided Drafting – CAD 1

This course provides instruction for skills and knowledge for two-dimensional drafting using AutoCAD software. This includes the following: drawing setup, drafting 2D objects, editing entities, and creating and managing layers. Also covered are creating blocks, applying linear dimensioning, and inserting hatch patterns and text. The focus is directed toward creating accurate drawings.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

MDRAFT-742

Credits: 1

Computer-Aided Drafting – CAD 2

This course continues to work with AutoCAD using advanced features and commands, such as blocks with attributes, x-references, splines, object linking and embedding, viewports, Model Space and Paper Space. More detail is given for drafting formats such as creating orthographic projections, isometrics and auxiliary views. Students also learn how to read a scale and convert hand draws to computer drawings. Prerequisite(s): MDRAFT-741.

MDRAFT-743

Credits: 1

Architecture Build/Modeling I & II

This course provides an overview of the fields of civil engineering and architecture, while emphasizing the interrelationship and dependence of both fields on each other. Hands-on projects and activities include the use of Revit, a software program that automatically converts 2D drawings to 3D. Course topics include the roles of civil engineers and architects, project planning, site planning, building design, and project documentation and presentation.

MDRAFT-746

Credits: 1

3D Modeling and Design 1

Focus is on the seven stages of the design process, from problem identification to presentation. Emphasis is on developing a portfolio throughout the course, which documents class projects. Students will learn elements and principles of design, and develop sketching and visualization skills through hand sketching, annotated drawings and geometric relationships. Major emphasis is on Inventor software by Autodesk. Inventor is used as a design tool to create 3D computer models, assemblies and parts lists. Applying good design criteria will be used to communicate solutions to simple product development and reverse engineering projects.

MDRAFT-747

Credits: 1

3D Modeling and Design 2

Emphasis is on further development of student portfolio. Students will develop their own original designs of products which are functional and aesthetic. Students will develop sketches and create design matrixes for product development. Major emphasis is on Inventor software by Autodesk. Students will learn more advanced features of the software. Inventor software is used to teach model analysis, verification and documentation. Presentation techniques and marketing applications will also be covered. Other software introductions will be PowerPoint, Publisher and AutoCAD. Prerequisite(s): MDRAFT-746.

OFFICE/SYSTEMS TECHNOLOGY

OFTECH-735

Credits: 1

Keyboard, Keypad and Windows

This is a competency-based course for learning the alphabetic and numeric keyboard using the touch method. In addition, the numeric

keypad is presented. Students experience hands-on practice using a mouse, menus and Windows accessories. Furthermore, the student will format, type, print, edit and save simple documents using MS Word.

OFTECH-737

Credits: 1

Basic Applications of Word Processing

Students will format, type and print documents, as well as edit a document using simple editing features, manipulate multiple-page documents, and create and edit simple tables.

OFTECH-739

Credits: 1

Business Operations Co-Op Part 1

Class time consists of a variety of work-related sections designed to improve skills necessary for work with the portfolio. Areas to be covered will include: course and program orientation, communications and career development.

OFTECH-740

Credits: 1

Business Operations Co-Op Part 2

Class time consists of a variety of work-related sections designed to improve skills necessary for work with the portfolio. Areas covered include database, spreadsheets, math concepts and financial record-keeping. Prerequisite(s): OFTECH-739.

OFTECH-741

Credits: 2

Business Co-Op Work Experience 1

Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among the areas to be covered will be a meeting preparation project, a project that is either accounting-based or technology-based, and business portfolio completion. Prerequisite(s): OFTECH-735.

OFTECH-742

Credits: 1.5

Business Co-Op Work Experience 2

Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas to be covered will be a meeting preparation project, a project either accounting-based or technology-based, and business portfolio completion. Prerequisite(s): OFTECH-741.

OFTECH-743

Credits: 1.5

Business Co-Op Work Experience 3

Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas to be covered are a meeting preparation project, a project either accounting-based or technology-based, and business portfolio completion. Prerequisite(s): OFTECH-742.

OFTECH-744

Credits: 1.5

Business Co-Op Work Experience 4

Class time consists of a variety of work-related sections designed to improve entry-level clerical skills as defined by the portfolio. Among areas covered are a meeting preparation project, a project

either accounting-based or technology-based, and business portfolio completion. Prerequisite(s): OFTECH-743.

READING – LEVEL 1

READB1-717

Credits: 4

Basic Reading 1

Level 1 Reading (grade equivalent 0-1.9) emphasizes reading simple material on familiar subjects and comprehending simple compound sentences in single or linked paragraphs containing a familiar vocabulary. Students who successfully complete Level 1 Reading achieve beginning basic education benchmarks according to NRS guidelines.

READING – LEVEL 2

READB2-727

Credits: 4

Basic Reading 2

Level 2 Reading (grade equivalent 2.0-3.9) emphasizes reading text on familiar subjects that have a simple and clear underlying structure. Students use context to determine meaning and can interpret actions required in specific directions. They also read simple charts, graphs, labels, payroll stubs, and simple authentic material. Students who successfully complete Level 2 Reading achieve low intermediate basic education benchmarks according to NRS guidelines.

READING – LEVEL 3

READB3-737

Credits: 4

Basic Reading 3

Level 3 Reading (grade equivalent 4.0-5.9) emphasizes reading text on familiar subjects or from which new vocabulary can be determined by context. Students read simple descriptions and narratives and can make some minimal inferences about familiar texts and compare and contrast information from texts. They also read authentic materials on familiar topics, such as simple employee handbooks. Students who successfully complete Level 3 Reading achieve high intermediate basic education benchmarks according to NRS guidelines.

READB3-777

Credits: 3

Pre-Health Occupations Reading

This pre-college reading course provides students with an introduction to the terminology and reading skills used in healthcare delivery. Computer-based assignments provide students with opportunities to learn and practice the use of technology. Special emphasis is placed on reading about current issues in public health and healthcare delivery. Text comprehension and vocabulary strategies are practiced using articles found online as well as in periodicals. Text analysis, graphic reading and test-taking are practiced.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

READING – LEVEL 4

READB4-747

Credits: 4

Basic Reading 4

Level 4 Reading (grade equivalent 6.0-8.9) emphasizes comprehension of a variety of materials, such as periodicals, non-technical journals on common topics, and expository writing. Students identify spelling, punctuation and grammatical errors and follow simple multi-step directions. Students identify the main idea in reading selections and use context to determine meaning. Participants who successfully complete Level 4 Reading achieve low secondary education benchmarks according to NRS guidelines.

READING – LEVEL 5

READB5-757

Credits: 4

Pre-College Reading 5

Level 5 Reading (grade equivalent 9.0-10.9) emphasizes comprehension of a variety of literary works, including primary source materials and professional journals. Students will explain and analyze information, use context cues and higher order processes to interpret the meaning of written material, and will read technical information and complex manuals. Students who successfully complete Level 5 Reading achieve high adult secondary education benchmarks according to NRS guidelines.

READING – LEVEL 6

READB6-767

Credits: 4

Pre-College Reading 6

Level 6 Reading (grade equivalent 11.0-12.9) emphasizes adapting strategies and skills to a variety of reading tasks and becoming a critical reader. Students apply prior experience and knowledge, use study skills, and transfer reading and vocabulary skills to a variety of printed and illustrative materials found in the workplace, school and everyday life. Students who successfully complete Level 6 Reading achieve a reading level comparable to the Wisconsin 12th grade exit standards for reading and are prepared to enter postsecondary education and/or obtain and maintain employment.

READB6-770

Credits: 1

Analytical Reading Strategies for Health Occupations

This one-credit course is designed to advance the analytical/scientific reading ability of students entering the health occupations, which require advanced reading skills. This course will introduce the student to analytical reading and comprehension strategies through applied practice. Prerequisite(s): Consent is required to enroll in this course.

READING – ADULT HIGH SCHOOL

READHS-711

Credits: 1

Developmental Reading 1

Do you want to build your reading confidence? Do you miss some important information when you read? This course will help students develop reading comprehension and vocabulary strategies. The class will read a short novel as well as current magazine and newspaper articles. Students also practice real-life reading, which includes nutritional labels, government publications, job applications and descriptions. Students learn how to write and keep a reading journal.

READHS-712

Credits: 1

Developmental Reading 2

This course emphasizes reading and vocabulary strategies. Students will read a novel and work with more advanced workplace reading materials. The students will also learn to be a critical reader. Students find information on the computer and develop a class report. Applying reading skills to the subjects being studied is practiced. Prerequisite(s): READHS-711.

READHS-713

Credits: 1

Reading and Study Skills

Are you planning to continue your education beyond high school? Do you panic at the thought of a test? How are your note-taking skills? Would you like to write a small research report? This class will help you in all these areas. It is designed to help students increase fluency, comprehension, vocabulary and word decoding, and presents practical reading strategies for helping students appreciate the medium of books. Useful critical thinking topics are explored through guided reading, independent reading, reading-writing connections, literature circles, reading intervention, reading aloud, vocabulary exploration and content area.

READHS-772

Credits: 4

Reading for Non-Traditional Occupations 1

This course is designed for high school students exploring non-traditional occupations who need to improve their reading and writing competencies.

READHS-773

Credits: 4

Reading for Non-Traditional Occupations 2

This course is designed for high school students exploring non-traditional occupations who need to improve their reading and writing competencies.

READING – POST HIGH SCHOOL

READPH-771

Credits: 5

Academic Transition Lab: Reading

This course is designed for students who have graduated from high school, or GED or HSED, who do not earn a high enough assessment reading score to enter their desired college program.

READPH-777

Credits: 4

Post High School Reading

This reading course is designed for high school graduates who require remedial work in reading to bring their assessment score up to the 55 needed to enter PLI or 70 to enter their program of choice.

SCIENCE – ADULT HIGH SCHOOL

SCIHS-701

Credits: 1

General Science 1

Designed to give students a better understanding of the environment, this course demonstrates the importance of the sciences in everyday life. Topics include matter, energy, electricity and heat. Includes class demonstrations and group experiments.

SCIHS-702

Credits: 1

General Science 2

This course is a study of our changing planet and the makeup of our living world. Topics include geology, weather, climate, the universe, life on earth, ecology, the human body, and environmental problems.

SCIHS-703

Credits: 1

Biology 1

Students obtain an overview of biology and learn about the basic tools for biology, the chemical and structural basis of life, genetics and microbiology through lecture and labs.

SCIHS-704

Credits: 1

Biology 2

Students develop an understanding of the anatomy and physiology of animals, with an emphasis on human biology, through lecture, dissections and experiments.

SCIHS-705

Credits: 1

Chemistry 1

The language and logic of chemistry are developed by studying elements, compounds and mixtures; atomic structure; the periodic table and the Periodic Law; chemical bonding; naming of compounds; the writing of formulas; and other topics. Prerequisite(s): MATHHS-716 or MATHPH-716.

SCIHS-706

Credits: 1

Chemistry 2

Instruction is continued in the laws and principles of chemistry through a study of oxygen, hydrogen, carbon, the properties of gases, the kinetic theory of matter, ionization, solutions, oxidation-reduction, radioactivity, and additional topics. Prerequisite(s): SCIHS-705 or SCIPH-705.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

SCIHS-715

Credits: 1

Environmental Biology

This is a continuation of Biology 1 and 2. Students will develop an awareness of the interrelationships and interactions of life and the environment through lecture and through labs. Topics will include plant life, evolution and ecology.

SCIHS-720

Credits: 1

Bioethics

Biology/science and technology offer both promise and problems. They greatly influence our lives and will shape our future. In bioethics, students will learn the biology and technology of science and society issues; society will have to make decisions on these issues that will have an effect on people. Students will then research the issues, and discuss the controversy related to the issues and their major impact on society. Topics may include abortion, cloning, stem cells, genetic engineering, evolution, the rain forest, pollution, recycling, alternative energy sources and more.

SCIHS-750

Credits: 1

Physical Science 1

This course teaches the nature of science while incorporating physics, chemistry, earth science and space science. Topics include nonliving matter, scientific problem-solving, metric measurement, nature of chemicals, periodic tables, force, acceleration, momentum, work, power and machines.

SCIHS-751

Credits: 1

Physical Science 2

Physical Science 2 is a course designed to teach the nature of science while incorporating physics, chemistry, earth science and space science. Topics will include heat and temperature, waves, communication and technology, the solar system, the universe, Earth, the atmosphere, and using natural resources.

SCIHS-789

Credits: 1

Science in Technology

Students will study general concepts of physical science and learn to apply them to appropriate occupational fields.

SCIENCE – POST HIGH SCHOOL

SCIPH-701

Credits: 1

General Science 1

Designed to give students a better understanding of the environment, this course demonstrates the importance of the sciences in everyday life. Topics include matter, energy, electricity and heat. Includes class demonstrations and group experiments.

SCIPH-702

Credits: 1

General Science 2

A study of our changing planet and the makeup of our living world. Topics include geology, weather, climate, universe, life on Earth, ecology, the human body, and environmental problems.

SCIPH-703

Credits: 1

Biology 1

Students will obtain an overview of biology, and learn about the basic tools for biology, the chemical and structural basis of life, genetics and microbiology through lecture and labs.

SCIPH-704

Credits: 1

Biology 2

Students will develop an understanding of the anatomy and physiology of animals, with an emphasis on human biology, through lecture, dissections and experiments.

SCIPH-705

Credits: 1

Chemistry 1

The language and logic of chemistry are developed by studying elements, compounds and mixtures; atomic structure; the periodic table and the Periodic Law; chemical bonding; naming of compounds; the writing of formulas; and other topics. Prerequisite(s): MATHHS-716 or MATHPH-716.

SCIPH-706

Credits: 1

Chemistry 2

Instruction is continued in the laws and principles of chemistry through a study of oxygen, hydrogen, carbon, the properties of gases, the kinetic theory of matter, ionization, solutions, oxidation-reduction, radioactivity, and additional topics. Prerequisite(s): SCIHS-705 or SCIPH-705.

SCIPH-715

Credits: 1

Environmental Biology

This is a continuation of Biology 1 and 2. Students will develop an awareness of the interrelationships and interactions of life and the environment through lecture and through labs. Topics will include plant life, evolution and ecology.

SCIPH-750

Credits: 1

Physical Science 1

This course teaches the nature of science while incorporating physics, chemistry, earth science and space science. Topics include nonliving matter, scientific problem-solving, metric measurement, nature of chemicals, periodic tables, force, acceleration, momentum, work, power and machines.

SCIPH-770

Credits: 1

Science Foundations for Health Occupations

This one-credit course provides an overview of science skills needed for success in the health occupations programs. Five themes are woven through the course to strengthen application of basic science to real-world clinical situations and provide context for the competencies. The themes are: systems theory, homeostasis, cell and biochemical theory, applied mathematics, critical thinking, and science as a root of clinical practice. Prerequisite(s): Consent is required to enroll in this course.

SMALL ENGINE/CHASSIS MECHANIC

SMENG-761

Credits: 1

Motorcycles and Outdoor Power Equipment 1

This course is designed to introduce the student to basic internal combustion machinery. Students will be introduced to the theoretical workings of gasoline-driven motors. The mathematics of American standard and metric measurements will be discussed. Commonly used tools and specialty tools will be explained. Students will be able to apply this knowledge to small engines used for lawn mowers and lawn tractors. Students will be able to take apart and assemble motors, replace components and repair broken engines. Students will also work on self-driven mowers and work on transmissions of lawn tractors.

SMENG-762

Credits: 1

Motorcycles and Outdoor Power Equipment 2

This course introduces motorcycle repair and all-terrain vehicles (ATVs) to students. The focus of this course is to experience reading service manuals in order to understand how to repair motorcycles and ATVs from different manufacturers. Motorcycle and ATV engines, drivetrains and carbureted fuel systems are the main emphasis of this course. Students will learn about the operations of engines through hands-on applications by assembling and replacing pistons, rings, valves, crankshafts, cams, bearings, bushings, carburetor slides, choke mechanisms and all other engine components. Students will use American standard, metric and specialty tools. They will be able to start and tune engines, and will experience how to use diagnostic tools that read the internal workings of an operating engine. Prerequisite(s): SMENG-761.

SMENG-763

Credits: 1

Motorcycles and Outdoor Power Equipment 3

This course continues teaching students about the operations and repairs of motorcycles and all-terrain vehicles (ATVs) and can be used as the launching point for students who may be interested in pursuing a career in motorcycle repair. Students will experience and learn more diagnostic procedures. Fine-tuning and increased performance will be the focus of this course. Students will be introduced to electrical components and fuel injection systems. Drivetrain components, such as clutches, gear ratios and transmissions, will be discussed and worked on. Chain drives and direct drives will be available to work on. More specialty tools will be used. Prerequisite(s): SMENG-762.

PRE-COLLEGE EDUCATION

COURSE DESCRIPTIONS

SMENG-764

Credits: 1

Motorcycles and Outdoor Power Equipment 4

The focus of this course will be engine performance, fuel injection and the electronics of outdoor recreational vehicles. Students will learn how to read diagnostic equipment and will learn basic wiring fundamentals. Electrical language will be taught. Students will learn about reading electrical instruments and how to perform basic troubleshooting techniques, repair and install wiring systems and learn the interrelations of the engine's electrical components of battery, coils, fuel system, ignition, rectifiers, lights, etc. Students will be exposed to replacing old components with newer components for better performance and reliability. Prerequisite(s): SMENG-762.

SOCIAL SCIENCE – LEVEL 2

SOCB2-742

Credits: 3

Basic Social Studies

The content of this course is delivered in two languages. Its goal is to mainstream new immigrants into society. The student will acquire the basic social studies concepts in behavioral sciences, U.S. history, political science, economics and geography that will allow the development of a personal response to social issues. In addition, students will learn to compare, contrast and summarize cultural features.

SOCIAL SCIENCE – ADULT HIGH SCHOOL

SOCHS-701

Credits: 1

American Government

A study is made of American democracy. Topics include political principles, documents, and the development of rights of a free people. Emphasis is placed upon three major areas: the Congress, the Presidency and the Supreme Court.

SOCHS-704

Credits: 1

Economics

A study of the challenge to use limited resources to satisfy unlimited human wants for goods and services. This course attempts to explain how humans and nations resolve this problem.

SOCHS-709

Credits: 1

World Geography 1

This introductory course in geography deals with the physical and economic elements of the earth. It includes a discussion of climates and maps. The nations of Europe, the Middle East and Africa are studied.

SOCHS-710

Credits: 1

World Geography 2

The study of the physical and economic elements of the earth is continued. The course includes the study of Asia, Australia, and North America and South America. World trade, conservation, and underdeveloped areas are discussed.

SOCHS-714

Credits: 1

Personal Economics

Students research, plan, implement and assess their short- and long-term personal economic future. Students will focus on practical skills that can be applied to improving their personal finances.

SOCHS-715

Credits: 1

Introduction to the Social Sciences

This course provides an introduction to the basic concepts of the seven major social sciences: psychology, sociology, anthropology, geography, history, political science and economics. Additional course content deals with developing effective thinking and study skills.

SOCHS-724

Credits: 1

Human Relations

This course is designed to aid in improving oneself and one's relations with others. Emphasis is placed upon areas such as heightening self-awareness, conflict resolution, and improving communication.

SOCHS-725

Credits: 1

Coping and Wellness

This course covers issues confronting students in today's society such as: anger management, substance abuse, street crime, poverty, etc. Efforts will be made to have students interact with community leaders and healthcare professionals, as well as perform in-class projects.

SOCHS-750

Credits: 0.5

Civic Literacy

In this course, the student learns the basic principles expressed in important political documents in U.S. history, as well as the relationships between national, state and local governments.

SOCHS-752

Credits: 0.5

Advanced Civic Literacy

The student will expand upon his/her knowledge obtained in Civic Literacy. The emphasis is on researching material from the internet and other resources. Students also watch or participate in government functions.

SOCHS-761

Credits: 1

Sociology

This course develops an awareness of the social structures, social processes and institutions that make up society. By analyzing the various societal processes and structures, it enables the student to relate to group experiences.

SOCHS-762

Credits: 1

Sociology 2: Social Problems

This course considers the dynamic political and socio-economic factors that operate within a metropolitan area and influence our daily lives. Current trends having significant effects on urban areas also are discussed.

SOCHS-781

Credits: 1

Criminal Law 1

This course clarifies how ours is a government of laws and not of people. It reinforces the concept that good citizens possess knowledge about law and government while participating in the legal system. It explores and explains the criminal justice system, while providing students with practical information and problem-solving opportunities that develop the necessary knowledge and skills for today's society.

SOCHS-783

Credits: 1

Criminal Law 2

This course explains how and why discretion is exercised by criminal justice personnel from arrest through sentencing. It explores the critical events that occur before, during and after a trial. In addition, this course provides a practical understanding of law and the legal system, which will be useful to students in their everyday lives, and improves the understanding of fundamental principles and values underlying our Constitution, laws and legal system.

SOCHS-791

Credits: 1

Civil Law 1

This course clarifies how ours is a government of laws and not of people. It reinforces the concept that good citizens possess knowledge about law and government while participating in the legal system. It explores and explains the civil tort system, while providing students with practical information and problem-solving opportunities that develop knowledge and skills. In addition, this course provides a practical understanding of lawsuits that will be of use to students in their everyday lives. It provides awareness of current tort issues and controversies related to the law and the legal system.

SOCHS-793

Credits: 1

Civil Law 2

This course is designed to provide students with practical information and problem-solving opportunities that develop the knowledge and skills necessary for survival in a consumer-oriented society. The course explores and explains some of the major components of consumer law. It provides students with the ability to analyze, evaluate, and, in some situations, resolve consumer-related legal problems.

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Start Your Success Story at MATC

- 85% of MATC graduates are employed or furthering their education within six months of graduation

Average annual earnings six months after graduation from MATC:

- \$36,542 associate degree
- \$30,616 technical diploma

If your goal is a bachelor's degree or beyond, MATC offers hundreds of four-year college transfer options. You can start at MATC and transfer many associate degree credits and programs to Wisconsin public and private four-year colleges and universities, including the UW System schools.

MATC Earns Community Engagement Classification from Carnegie Foundation

Milwaukee Area Technical College was one of eight Wisconsin institutions, and the lone two-year college, to earn the Community Engagement Classification from the Carnegie Foundation for the Advancement of Teaching in 2015. The classification was received by 240 colleges and universities in the nation.

"Receiving the Community Engagement Classification from the Carnegie Foundation is a significant accomplishment for Milwaukee Area Technical College," said Dr. Vicki J. Martin, MATC president. "The classification recognizes the college's mission to engage with our community partners to advance the quality of life for our students and members of the greater Milwaukee community. Incorporating service learning into our academic curriculum enriches the overall experience for MATC students and prepares them to have an impact in the communities in which they live and work."



Equal Opportunity and Affirmative Action Commitment

Milwaukee Area Technical College's commitment to equal opportunity in admissions, educational programs, and employment policies assures that all individuals are included in the diversity that makes the college an exciting institution. MATC does not discriminate against qualified individuals in employment or access to courses, programs, or extracurricular activities on the basis of race, color, national origin, ancestry, religion, creed, sex, sexual orientation, age, disability, pregnancy, marital status, parental status, or other protected class status. The lack of English skills shall not be a barrier to admission or participation in any MATC program or service.

MATC will comply fully with state and federal Equal Opportunity and Affirmative Action laws, executive orders, and regulations. Direct questions concerning application of this policy to the MATC Affirmative Action Office, 700 West State Street, Milwaukee, WI 53233-1443.

It is the policy of MATC to provide reasonable accommodations for all students, or applicants for admission, who have disabilities (see Discrimination Against Individuals With Disabilities policy CO203). MATC will adhere to all applicable federal and state laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal opportunity and access to programs and services for students with disabilities. Reasonable accommodations will be provided in a timely and cost-effective manner. Access shall not be denied because of the need to make reasonable accommodations for an individual's disability.

State and federal laws include the concept of "reasonable accommodation" as a key element in providing equal opportunity and access to programs and services for students with disabilities.

3D Solid Modeling Certificate, Accounting Degree, Accounting Assistant Diploma, Accounting Bookkeeper Trainee Certificate, Administrative Professional Degree, Administrative Professional – Accelerated Degree, Advanced Television Post-Production Certificate, Advertising Specialist Diploma, Aesthetician Diploma, Air Conditioning and Refrigeration Technology Degree, Anesthesia Technology Degree, Animation Degree, AODA Substance Abuse Counselor Certificate, Appliance Technician Diploma, Arboriculture Certificate, Architectural Technology Degree, Architectural Woodworking/Cabinetmaking Diploma, Associate in Arts Degree, Associate in Arts – Online Accelerated Degree, Associate in Arts Degree – Educational Foundations Track, Associate in Science Degree, Associate in Science Degree – Biotechnology Track, Associate in Science Degree – Chemical Technology Track, Audio Engineer Diploma, Audio Production Degree, Auto Collision Repair and Finish Technician Diploma, Automotive Maintenance Technician Diploma, Automotive Technology – Comprehensive Degree, Aviation Technician – Airframe Diploma, Aviation Technician – Powerplant Diploma, Baking and Pastry Arts Degree, Baking Production Diploma, Banking and Financial Services Degree, Barber Diploma, Barber/Cosmetologist Instructor Certificate, Barber/Cosmetologist Manager Certificate, Basic Electronics – Computer Multimedia Lab Certificate, Basic Electronics – Core Curriculum Certificate, Bilingual Office Assistant Diploma, Biomedical Electronics Technology Degree, Biotechnology Certificate, Boiler Operator Certificate, Bricklaying Diploma, Business Management Degree, Business Management Diploma, Business Management Trainee Certificate, Cardiovascular Technology Degree, Carpentry Diploma, Chemical Technician Degree, Child Care Services Diploma, Cisco Internetworking (CCNA) Certificate, Civil Engineering Technology Degree, Computer Electronics Technology Degree, Computer Numerical Control (CNC) Machine Operator/Programmer Diploma, Computer Simulation and Gaming Degree, Cosmetology Diploma, Creative Advertising Strategist Degree, Criminal Justice – Law Enforcement Degree, Culinary Arts Degree, Culinary Assistant Diploma, Culinary Management Degree, Dental Assistant Diploma, Dental Hygiene Degree, Dental Technician Diploma, Diesel and Powertrain Servicing Diploma, Dietary Manager Certificate, Dietetic Technician Degree, Digital Forensics Analyst Diploma, Early Childhood Education Degree, eBusiness Technology Analyst Degree, eBusiness Strategist Diploma, Electrical Construction Certificate, Electrical Power Distribution/Line Mechanic Diploma, Electricity Diploma, Electronic Engineering Technology Degree, Electronic Technology Degree, Emergency Medical Technician Diploma, Emergency Medical Technician – Advanced Diploma, Energy Engineering Technology Certificate, Energy Modeling Certificate, Entrepreneurship Diploma, Environmental Health and Water Quality Technology Degree, eProduction Degree, Fashion/Retail Marketing Degree, Fashion Marketing Specialist Diploma, Financial Services Diploma, Financial Services Trainee Certificate, Fire Protection Technician Degree, Food and Beverage Management Diploma, Food Manufacturing and Processing Technician Diploma, Food Science Technology Degree, Food Service Assistant Diploma, Food Service Team Leader Diploma, Funeral Service Degree, Graphic Design Degree, Greenhouse Plant Production Certificate, Health Information Technology Degree, Health Unit Coordinator Diploma, Healthcare Customer Service Certificate, Healthcare Services Management Degree, Hotel/Hospitality Management Degree, Human Resources Degree, Human Service Associate Degree, Individualized Technical Studies Degree, Industrial Electronics and Controls Certificate, Information Security Fundamentals Certificate, Infrastructure Security Certificate, Interactive Media Degree, Interior Design Degree, Interpreter Technician Degree, IT Advanced Technical Support Certificate, IT Computer Support Specialist Degree, IT Information Systems Security Specialist Degree, IT Information Systems Security Specialist – Accelerated Degree, IT Level 2 – Service Center Technician Certificate, IT Microsoft Enterprise Desktop Support Certificate, IT Mobile Application Developer Degree, IT Network Specialist Degree, IT Network Specialist – Accelerated Degree, IT Networking and Infrastructure Administration Diploma, IT Security Auditing Certificate, IT Service Center Technician Certificate, IT Web and Software Developer Degree, Land Surveying Certificate, Landscape Design Technology – CAD Certificate, Landscape Horticulture Degree, Law Enforcement Certificate, Lean Certificate, Legal Administrative Professional – Accelerated Degree, Lodging and Hospitality Assistant Certificate, Machine Tool Operations – CNC Machine Setup and Operation Diploma, Machine Tool Operations – CNC Swiss Turning Center Setup and Operation Diploma, Marketing Management Degree, Marketing Management – Online Accelerated Degree, Marketing Management Diploma, Marketing Specialist Diploma, Mechanical and Computer Drafting Diploma, Mechanical Design Technology Degree, Medical Administrative Specialist Degree, Medical Assistant Diploma, Medical Billing Diploma, Medical Coding Specialist Diploma, Medical Interpreter Diploma, Medical Laboratory Technician Degree, Meeting and Event Management Degree, Metallurgical Technician Certificate, Mobile Application Designer Diploma, Mobile Designer Degree, Music Occupations Degree, Nail Technician Certificate, Native Landscape Plants Certificate, Nursing Assistant Diploma, Occupational Therapy Assistant Degree, Office Technology Assistant Diploma, Optician – Vision Care Diploma, Paralegal Degree, Paralegal Post-Baccalaureate Diploma, Paramedic Technician Diploma, Pharmacy Technician Diploma, Phlebotomy Diploma, Photography Degree, Physical Therapist Assistant Degree, Plant Health Care Certificate, Power Engineering and Boiler Operator Diploma, Practical Nursing LPN-RN Educational Progression Degree, Preparatory Plumbing Diploma, Preschool Certificate, Quality Engineering Technology Degree, Radiography Degree, Real Estate Degree, Refrigeration, Air Conditioning and Heating Service Technician Diploma, Registered Nursing Degree (1+1 Practical Nursing Program), Renal Dialysis Technician Diploma, Respiratory Therapist Degree, Retail Marketing Specialist Diploma, Sales Specialist Diploma, Six Sigma Black Belt Certificate, Six Sigma Green Belt Certificate, Social Media Specialist Degree, Social Media Strategist Diploma, Special Event Management Diploma, Supervisory Management – Accelerated Degree, Supervisory Management Certificate, Supply Chain Management Degree, Supply Management Diploma, Surgical Technology Degree, Sustainable Facilities Operations Certificate, Sustainable Facilities Operations Degree, System Administration and Security Certificate, Technical Studies: Apprentice Degree, Television and Video Production Degree, Tool and Die Making Diploma, Transportation – Logistics Diploma, Truck Driving Diploma, TV & Video Field Production Assistant Diploma, TV & Video Studio Production Assistant Diploma, Unity Developer Diploma, Water Technician Certificate, Web Designer Diploma, Welding Diploma, Welding Technology Degree



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MATC is accredited by the Higher Learning Commission, Commission on Institutions of Higher Education, the national standard in accrediting colleges and schools for distinction in academics and student services.

MATC is an Affirmative Action/Equal Opportunity Institution and complies with all requirements of the Americans With Disabilities Act.