College Catalog 2001-02

(800) 422-NWTC
www.nwtconline.com

Northeast Wisconsin Technical College

COLLEGE CATALOG

2001-2002

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Northeast
Wisconsin Technical College

Vision Statement

We will provide all learners the highest quality, life-long learning opportunities that are

- *what you want*
- *when you want*
- *where you want, and*
- *how you want them*

so you may continue your learning and successfully engage in a career that enhances your quality of life in a global community.

Mission Statement

We are a two-year technical college, serving Northeast Wisconsin by providing education, training, and lifelong learning opportunities for individuals and businesses leading to the development of a skilled workforce. Our customers stimulate the economic vitality of our district as a result of the application of skills and knowledge acquired through the completion of certificates, degrees, diplomas, and courses.

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Who to Contact at Northeast Wisconsin Technical College

GENERALINFORMATION

Green Bay Campus.........................(920) 498-5400 or toll-free (800) 422-NWTC

Marinette Campus..(715) 735-9361

Sturgeon Bay Campus...(920) 743-2207

Financial Aid...(920) 498-5436

Registration Information..(920) 498-5444

Transcripts..(920) 498-5579

Veteran Services...(920) 498-6292

STUDENT SERVICES

Admissions and General Program Information.........................(920) 498-5733

Employment Assistance...(920) 498-5528

Multicultural Center..(920) 498-6385

Returning Adult Services...(920) 498-5691

Special Student Needs and TTYAccess.......................................(920) 498-5470

(920) 498-6901

TOURS...(920) 498-6855

CAREERS 2000 CENTER ....(920) 498-5422

SKILLS CENTER..................Communications/Reading Lab - (920) 498-5686

Assessment/Testing Center - (920) 498-5427

DISTRICT OFFICES...(920) 498-5500

COMMUNITY BUSINESS AND INDUSTRY ....(920) 498-6373

DISTANCE LEARNING - VIDEO COURSES ....(920) 498-5571

INTERACTIVETELEVISION - TV COURSES ....(920) 498-5424

INTERNETCOURSES ....(920) 498-5571

or toll-free (800) 422-NWTC

Visit our Web site at www.nwtconline.com

Northeast Wisconsin Technical College
Ten Impressive Facts

- NWTC meets the training and learning needs of over 43,000 people per year.

- NWTC serves 391 businesses with customized training either on site or in the classroom, training 13,110 employees.

- NWTC offers flexible learning options: weekend college, evening classes, Internet courses, interactive television, and video classes.

- NWTC offers 9,416 high quality courses in 67 career fields spanning Business & Marketing, Health & Community Service, and Trades & Technical.

- Over 1000 different computer training courses are offered each year.

- Within six months of graduation, 96% of our graduates have jobs.

- NWTC graduates' salaries have increased 36% over the past five years.

- 40% of high school students enroll here within three years of graduation.

- 70% of jobs in the future will require some type of technical training (U. S. Department of Labor). NWTC provides the technical excellence that leads to your individual and business success.

- NWTC has three campuses located in Green Bay, Marinette, and Sturgeon Bay with an additional six community learning centers with services to 30 communities to meet your learning and training needs.

President's Message: Let us meet your needs

Some colleges behave as though they don't want you around. Huge lecture classes taught by graduate students ensure that the faculty will never know who you are. Rigid entrance requirements mean that they may never see you in the first place. Inflexible course schedules often don't allow you to have a meaningful job or family life while you study.

This is not that kind of place.

NWTC will prepare you for the high-skill, high-pay jobs of tomorrow through cutting-edge technology, flexible class schedules, innovative computerized classrooms, worksite learning, and an array of support services that can help you overcome any obstacle in your path.

The staff and faculty at NWTC believe that we are only successful when you are successful. If you need help preparing for a class or keeping up with a subject, we're here for you. If you need financial assistance because of an unexpected family hardship, we can help. If you need information about the local or national job market, we have it. NWTC students have been able to tailor their degree programs to fit their job needs, change the meeting schedule of their courses, take advantage of distance learning or video classes, and more, because we are committed to making NWTC work for our students.

We also believe that training for work is not a one-time event, but a lifetime process. We want to meet and exceed your expectations so that you will come back again and again. Your career will involve repeated demands for more education. So if we do our job right, we should see you many times over the course of your life. We look forward to that.

Our purpose is to help you get the educational experiences you need to enjoy a higher quality of life. It is our vision to provide the highest quality courses you want, when you want them, where you want them, and how you want them. So as you check out our degree and diploma offerings (which are only part of the College's many services) please let us know how we can make them meet your needs.

Thank you for checking out NWTC. We would love to have you here.

Sincerely,

H. Jeffrey Rafn, Ph.D.
President

NWTC District Board

Gerald Gerard, Florence County (Chairman)

Carla J. Hedtke, Oconto County (Vice-Chariperson)

Cherie A. Buhr, Brown and Outagamie Counties (Secretary)

Gerald L. Nichols, Brown and Outagamie Counties (Treasurer)

Laurene DeWitt Davidson, Marinette County

James Neuens, Brown and Outagamie Counties

Phyllis Habeck, Shawano County

Raymond A. Thillman, Kewaunee and Manitowoc Counties

Gerald Worrick, Door County

Dr. H. Jeffrey Rafn

District History and Campus Information

Northeast Wisconsin Technical College is a publicly supported, high technology college working closely with businesses and residents of Northeast Wisconsin to provide the education that residents and employers need.

Wisconsin's Technical Colleges were founded to train the workforce. In the early 1900s, most workers in Wisconsin received all their higher-level education through the apprenticeship system – including job training, math, and communications. In order to standardize the education that these working young adults received in reading, writing, and math, the State of Wisconsin promoted the creation of city vocational schools.

In response, vocational schools sprang up in Green Bay and Marinette in 1913, followed in 1941 by a school in Sturgeon Bay. Their scope expanded to include adults of all ages who were interested in technical careers, whether or not they were in the workforce. In 1968, the three schools joined to become a single district in what is now the Wisconsin Technical College System. The combined service areas of the Green Bay, Marinette, and Sturgeon Bay campuses include part or all of nine counties.

The College offers over 67 Associate Degree and Technical Diploma programs, a growing number of certificates, contracted business services, personal enrichment and continuing education courses, and special interest classes. This wide range of programs serves a wide variety of needs; in an average year, NWTC serves one in eight District residents, or more than 40,000 people.

- Post-secondary students taking courses that led to degrees or diplomas, either full-time or part-time

- Students taking individualized continuing education or corporate skill training

- Students taking math, communications, and community service classes that provide skills for living, working, and enjoying life

EDUCATION WHERE, WHEN AND HOW CUSTOMERS WANT IT

NWTC provides work-related education at many levels, to help area residents reach personal and career goals. The College is committed to making that variety of opportunities available to as many residents as possible. However, not all students can come to a campus during the workday, so students can take many courses through specialized service delivery programs that have evolved during NWTC's 87-year history.

- The Workplace Learning Services area brings NWTC classes, basic education, and student services to over 30 communities throughout Northeast Wisconsin.

- WLS also provides contracted, customized courses, and technical assistance to business and industry throughout the District – most at the employer's work site.

- Flexible Learning Options use technology, non-traditional scheduling, and innovative teaching techniques to make courses more convenient. Now, many classes can be taken when, where, and how the student wishes.

- Short-term certificates, seminars, and workshops allow busy customers to come to NWTC for only the information and services they need, rather than a full course or program.

Together, the three campuses provide flexible offerings in traditional, new, and emerging technologies to meet the needs of the entire Northeast Wisconsin community.

CORE ABILITIES

In addition to specific job-related training, NWTC has identified core abilities that are transferable and go beyond the context of a specific course. The College supports the following skills for all graduates of NWTC.

- Communicate effectively
- Understand and appreciate diversity
- Demonstrate global awareness and sensitivity
- Work cooperatively
- Set and achieve goals
- Value themselves
- Model responsible behavior
- Learn effectively
- Apply relevant technologies
- Think critically and creatively
- Access and use appropriate information resources

GREEN BAY CAMPUS

2740 West Mason Street
Green Bay, WI 54307-9042
(920) 498-5400 or (800) 422-NWTC

The Green Bay campus is the largest of the three campuses. The 11 building complex includes the District offices, a police and fire-fighter training center, and eight education buildings.

Each building in the complex houses state-of-the-art classrooms, laboratories, and shops. Building 3 also contains the Learning Resource Center (library), recreational facilities, vocational guidance in the Career Center, and academic support in the Skills Center.

One of NWTC's newest facilities is the Multicultural/International Resource Center, with both study and gathering space for students from diverse backgrounds. Information about various cultures and news from other countries are available to help both minority and majority culture students enrich their education. The Center also offers information about NWTC in the Hmong and Spanish languages.

District History and Campus Information

The Center for Business and Industry building, completed in 1992, serves as the headquarters for NWTC's Workplace Learning Services. The upper level provides classrooms for business-related instruction, meeting space, and multi-purpose rooms. The lower level offers a gymnasium, an evidence room for police tactics training, a health center, and science labs.

The Protective Services Laboratories include a Cinetronic Firing Range, used by police and corrections officers to keep their skills sharp. It is one of a handful of ranges in the world that have already incorporated the interactive video training technology, and it has been visited by law enforcement officials from Canada, Great Britain, Russia, and China, as well as the entire United States. The center also includes a three-story burn tower, in which fire departments can practice fire-fighting and lifesaving techniques in a realistic, yet structurally safe environment.

STURGEON BAY CAMPUS

229 North 14th Avenue
Sturgeon Bay, WI 54235-1317
(920) 743-2207

The Sturgeon Bay Campus is a 40,000 square feet facility in beautiful Door County. It is home to the Diesel and Heavy Equipment Technician program, which is supported by one of the College's strongest business/academic partnerships. FABCO Equipment Inc. and Caterpillar have provided scholarships, field trips, guest lecturers, faculty, professional development, equipment loans, and other academic support to the Diesel program. Thanks to FABCO and other industry partners, many of the Diesel students are attending NWTC on scholarship. Other programs include the Certified Nursing Assistant program, the Microcomputer Application Software Technician program, Supervisory Management program, and the Office Assistant program.

Sturgeon Bay is also the site of one of NWTC's newest degree programs. The Hospitality and Tourism Management Associate Degree is designed to make the most of its location in Door County, the Midwest's number one tourist destination. Students learn technical, management, financial, and other skills necessary to run a successful lodging, convention, or food service business.

A counselor is available to the students on the Sturgeon Bay campus, providing career counseling, admissions information and assistance, and assistance with school issues. The counselor works closely with Services for Students offices on the Green Bay campus to see that students are provided with a full range of services.

The campus has a student government that plans social activities and community services. This year's activities include flag football, bowling, collecting food for the local food pantry, and campus wide picnics and parties.

The Diesel Club and Hospitality and Tourism clubs assist student government in sponsoring campus activities. The Diesel Club is involved in VICAand has a strong history of success at VICA/Skills USA competitions. The club takes overnight field trips to companies like Case and Caterpillar. As one of the club's fundraising activities, members design and sell handsome jackets to club members.

Basic education assistance is available morning, afternoon, and evening to provide that extra help when needed, and prepare individuals for the GED and HSED. Diagnostic tools are provided to help students meet entry requirements for all NWTC programs.

MARINETTE CAMPUS

1601 University Drive
Marinette, WI 54143
(715) 735-9361

NWTC-Marinette is located on the south edge of the city of Marinette. Marinette, situated on the waters of Green Bay, is a hub of recreation, industry, and retail. Marinette and its sister cities of Peshtigo and Menominee, Michigan, jointly offer citizens a wealth of diverse social and economic opportunities.

In the summer of 1999, the construction of a Wisconsin Job Center was completed on the Marinette Campus. The Marinette Job Center offers job placement services, career development and planning, and guidance on occupational education and training opportunities.

The Marinette Campus is a full service campus offering a variety of full and part-time programs, plus convenient scheduling options for students with diverse needs.

- It offers an Associate Degree program in Fire Protection Engineering Technology, which was developed as a result of a unique industrial base in the Marinette area.

- It offers other Associate Degree programs in Microcomputer Specialist, Accounting, and Administrative Assistant.

- It offers Technical Diploma programs in Practical Nursing, Machine Tooling Technics, Automotive Maintenance Technician, Microcomputer Applications Software Technician, Office Assistant, Welding, Nursing Assistant, and Emergency Medical Technician-Basic.

- It offers courses leading to degrees and diplomas in many programs such as Supervisory Management, Quality Assurance, Childcare, Paralegal, and Health Care Business.

- It offers convenient, flexible learning options: evening classes and programs, weekend college, certificates, self-paced learning, accelerated learning, Technical College of the Air, and Interactive Television.

Services at the Marinette campus include a full Career Center; learning labs providing support with math, reading and study skills; Returning Adult Services; Special Needs Services; career assessment, counseling, and admissions. An active

District History and Campus Information

Student Senate, program-related clubs, and the Student Ambassador program provide high quality extra-curricular activities and have produced many state and national award winners.

LET US TELL YOU MORE!

You can learn how NWTC can contribute to your future success in many ways, either where you are or by coming to our campus.

High School Relations recruiters visit with high school students in many settings, including schools, malls, career expos, and college fairs. High school students can check with their guidance counselors or with NWTC to find out when the NWTC recruiter will next visit.

The Workplace Recruiter visits area workplaces to help workers find out how to maintain and increase their skills through education. That can range from basic skill development (reading/writing/math) to certificates to full degree and diploma programs.

Economic Development Specialists visit area workplaces to help employers find out how to improve their productivity through training and/or technical assistance. They can help employers create customized training programs, or offer ready-made instructional packages of any length, offered at any time and place.

Campus Tours give visitors the chance to see the hands-on equipment our students use, and often to meet with NWTC staff or students in a given program area.

NWTC's Shadowing Program lets visitors follow an NWTC student in classes for part or all of a day.

Tech Camp provides three-day career exploration workshops for students entering grades 6-9. Participants tackle a wide range of projects – like gathering police evidence, treating injuries, or wiring an electrical alarm.

Careers 2000 and Beyond, on the Green Bay campus, can help students match their skills and preferences with high-wage careers. Skill inventories, computerized databases of job openings and descriptions, and materials from colleges nationwide can expose visitors of all ages to many new choices and can help them make their decisions knowledgeably.

The Tech Prep Curriculum Coordinator works with high schools to match high school courses (or sets of courses) at each high school with NWTC courses to provide advanced credit or advanced placement at the technical college level.

For information, please call the Recruitment office at (920) 498-5267 or (800) 422-NWTC, ext. 5267.

District Description

District Boundaries: Northeast Wisconsin Technical College District is officially described as follows: Brown County less the portions of the Brillion Public School Districts and the Kaukauna Area School District; Door, Kewaunee, Oconto, Florence, and Marinette Counties; plus the portion of the School District of Denmark in Manitowoc County, and the portion of the School District of West De Pere in Outagamie County; the Gillett School District, the School District of Bonduel, and the Shawano-Gresham School District in Shawano County; and the Pulaski Community School District in Outagamie and Shawano Counties.

This catalog is not to be considered in any way a contractual document between Northeast Wisconsin Technical College and the student. The District administration reserves the right to change curricula, regulations, and course offerings as published in this catalog during the period of any student's attendance.

Any changes made will be in accordance with the policies, rules, and regulations established by the Wisconsin Technical College System Board and will be based upon the changing needs of the occupational areas involved.

This catalog was designed for individuals interested in enrolling in post-secondary Associate Degree and Technical Diploma programs at Northeast Wisconsin Technical College during the 2001-02 school year. Programs in higher education are offered at three campuses: Green Bay, Marinette, and Sturgeon Bay. Support services also are provided through a network of 30 Adult Continuing Education Centers in nine counties.

District policy changes after January 1, 2001, could affect portions of this catalog.

ACCREDITATION OF PROGRAMS
Northeast Wisconsin Technical College is fully accredited by the Commission on Institutions of Higher Education, North Central Association of Colleges and Schools, 30 North LaSalle Street, Suite 200, Chicago, Ilinois 60602-2504.

It is recognized as an institution of higher education by the United States Department of Education. It is recognized as a comprehensive technical college by the Wisconsin Technical College System Board.

The State of Wisconsin empowered the NWTC District Board in 1960 to grant Associate Degrees in Applied Science in two-year programs and Technical Diplomas in one- and two-year programs. Acceptance of courses for transfer credit at the baccalaureate level is at the discretion of the receiving institution.

The cost to attend NWTC is very reasonable. Our fees are currently $64.00 per credit. We strive to keep our tuition, books, and other fees affordable. Many of our students receive scholarships or financial aid. Most work while going to school. Activity fees are additional. Extra costs for supplies and materials may apply. For more information return the response card on the back of this catalog.

Admission

APPLICATIONS

Applications to enter an associate degree or technical diploma program will be accepted from students who have, at least, entered their senior year in high school. Application forms are available through local high school counselors, or any admissions office on NWTC's three campuses. Students can also call the Admissions Office at (920) 498-5733.

NWTC begins accepting applications the day after Labor Day. Completed applications will be processed on a first-come, first-served basis. When a sufficient number of applications to fill the next entry date and establish an adequate waiting list have been received, the program is closed and applications are no longer accepted. The time element varies from program to program and may be as short as a few days; in some cases a program may not be closed at all.

Students are encouraged to submit applications early. Applications are received and processed only until the number is sufficient to fill the upcoming program. This varies by specific program and is not entirely predictable. Consult with the NWTC Admissions Office for more specific information. Students whose applications are received and processed during the month prior to the intended semester of enrollment may not be able to take full advantage of all available services.

APPLICATION PROCEDURE

Applicants must complete the following procedures:

1. PROVIDE a valid Social Security number. Prospective students who do not have a Social Security number should contact the local Social Security office to obtain one.

2. CHECK the program description in this catalog to find out:
   a.) if ACT scores are needed (the only programs requiring ACT scores are Associate Degree Health Occupations Programs), OR
   b.) if there are any prerequisites. (See admissions counselor for help in this area.)

3. COMPLETE the application form.

4. SEND the following to NWTC Student Services-Admissions:
   a.) completed application form AND
   b.) $30 nonrefundable application fee.

5. REQUEST:
   a.) that the high school send an official transcript of the applicant's current educational records to Student Services-Admissions and a completed transcript upon graduation, OR
   b.) that GED/HSED scores be sent to NWTC Student Services from the institution that administered the tests, AND/OR
   c) transcripts from any other post-secondary institution.

6. LIST the courses in which applicant is currently enrolled as well as any courses previously completed, particularly if enrolled in a course that is a prerequisite for admission.

7. EXPECT to hear from Student Services-Admissions that the application has been received. This acknowledgement will be mailed within five working days.

8. Expect to complete the ACCUPLACERSkills Assessment unless excluded as indicated on page 10.

9. EXPECT a written notice indicating whether the application has been accepted or listing the reasons for denial.

10. ARRANGE for a pre-admission counseling interview/orientation.

ADMISSIONS QUESTIONS

For all questions regarding admission, students should contact the Admissions Counselor for the appropriate campus listed at the top of their desired degree or diploma program page.

STUDENT CLASSIFICATION SYSTEM

There are three classifications of students at Northeast Wisconsin Technical College.
- Associate degree
- Technical diploma
- Unclassified

Associate Degree and Technical Diploma Students
- Apply and are admitted to a degree or diploma program
- Successfully complete all required course work
- Have at least a 2.0 (C) cumulative grade point average (GPA)
- Fulfill other student requirements (see Student Handbook)

Unclassified Students
- Take available classes that meet their personal objectives and for which they have completed the prerequisites
- Have not applied for admission to any program
- Have not been accepted into a degree or diploma program (but may be pursuing a certificate)

NEW STUDENTS

An applicant should be a high school graduate, or equivalent, to be eligible for admission to most programs. Upon application, NWTC counseling staff will evaluate all experience, transcripts, and/or examinations to determine that entrance requirements have been met. All records that have been submitted, including high school records, other transcripts, and test results, plus ability, attitude, and motivation are considered by the admissions counselor when granting acceptance to a program. The admissions procedure often includes an assessment program.

High school graduation or high school graduation equivalence is required to be eligible for federal financial aid.

TRANSFER STUDENTS

Students transferring to NWTC from another institution of higher education will be considered for admission based on all submitted records. If an applicant is on scholastic probation or scholastic suspension at another institution, he or she will be considered for admission on a conditional basis.

Admission

READMISSION

If a student's attendance was interrupted for more than one year, the student must reapply and see a counselor before re-enrolling.

FOREIGN, NONIMMIGRANT STUDENT ADMISSION

The United States Department of Justice, Immigration and Naturalization Service has approved Northeast Wisconsin Technical College for acceptance of foreign, nonimmigrant students. Contact Student Services for information.

International students who have not taken the ACCUPLACER assessment must have scored well enough on an approved standardized test within three (3) years of entering an NWTC program. The test must assess reading, writing, and arithmetic skills. Other approved tests are ACT, SAT, Asset, Compass, or Descriptive tests.

TUITION RECIPROCITY AGREEMENTS
Michigan-Wisconsin Post High-School WTCS Reciprocity Agreement

Any Wisconsin student who is a resident of the Northeast Wisconsin Technical College District may attend any of the following schools in Michigan: Bay DeNoc and Gogebic Community Colleges, and educational institutions in the counties of Gogebic, Iron, Dickinson, Menominee, and Delta. The student will pay the standard out-of-district, in-state resident tuition rate charged by that institution under this agreement.

Any Michigan student who is a resident of Bay DeNoc and Gogebic Community College Districts and the counties of Gogebic, Iron, Dickinson, Menominee, and Delta may attend NWTC campuses at Green Bay, Marinette, and Sturgeon Bay. Students admitted under this agreement will pay an additional nominal fee. In 2000-2001 this fee was $5.00 per credit.

Students from both states shall be charged the same standard out-of-district, in-state resident tuition rate. The tuition rate is established annually by mutual agreement of representatives of each state and the educational districts involved.

MINNESOTA-WISCONSIN INTERSTATE COMPACT

A Wisconsin resident enrolled in a full-time program in a Minnesota Vocational-Technical Institute is considered a Minnesota resident for tuition purposes. A Minnesota resident enrolled in a full-time program at NWTC is considered a Wisconsin resident for tuition purposes.

RETRAINING GUARANTEE

NWTC offers free retraining for employed graduates whose employer certifies that they lack job competencies specified in their degree or diploma program.

Former students are eligible if they meet three requirements.

1. The NWTC student has graduated from a one-year or two-year Technical Diploma or Associate Degree program.

2. The job concerned is the student's first job after graduating.

3. Within 90 days of hiring the graduate, the employer certifies in writing that the employee lacks entry-level job skills and specifies the areas in which the graduate is deficient.

When those conditions are met, an NWTC team will be assembled to help the student with retraining courses and services. Participants may take up to six credits in their occupational program, and all program and material fees will be covered by the College.

SMOKE-FREE CAMPUSES

Smoking is prohibited within the Northeast Wisconsin Technical College facilities at Green Bay, Marinette, and Sturgeon Bay. The Northeast Wisconsin Technical College District Board instituted this policy based on a concern for the health of all students, faculty, and staff members at the College.

96.5% of NWTC's 2000 Graduates Are Employed!

Seeking Employment 3.5%

96.5% Employed
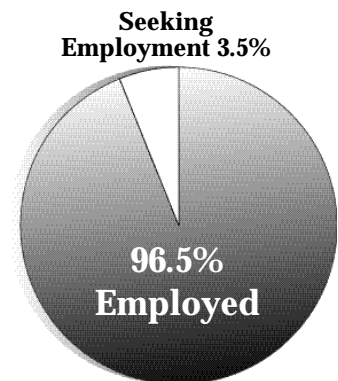
ACCUPLACER Helps Students Find The Right Place

NWTC is committed to helping every student succeed, and each student comes to college with different knowledge in each subject. NWTC uses the ACCUPLACER System skills assessment to help students choose the right courses for their skill levels and get the assistance they need to reach their academic goals.

All students entering an Associate Degree or Technical Diploma program complete the ACCUPLACER skills assessment as part of the admissions process EXCEPT

• Applicants who have a diploma from an accredited four-year college or university or an Associate Degree from a Wisconsin Technical College.

    OR

• Applicants who have earned certain scores on an accepted standardized test within the past three years (see below for list).

WHAT IS IT?

The ACCUPLACER System is a series of exercises to be completed on a computer. It is user friendly and was designed for individuals with little or no computer experience. Staff in the testing center is available to assist participants. The tests are untimed. Scores are available as soon as the individual completes the exercises. Students may choose to re-test as soon and as often as they wish.

DO I NEED TO GET CERTAIN SCORES IN ORDER TO GET INTO NWTC?

No. ACCUPLACER is not used to keep students out of college. It pinpoints the particular skills that students need to enhance before they take certain courses in their degree or diploma program. The student and the College can then work together to upgrade those skills - in some cases, while the student takes other courses that can contribute to that degree or diploma.

Students who do not meet the benchmarks listed next to their program of choice (see chart) can still be admitted into the program IF:

1) They work to enhance the skills that the entry assessments identified as needing improvement. Skill improvement may be done FOR FREE at NWTC on-campus Skill Labs, FOR FREE at NWTC Community Learning centers, or through high schools with the guidance of NWTC counselors.

    AND

2) They meet other non-assessment criteria required by the program.

DOES EVERY STUDENT HAVE TO TAKE ACCUPLACER?

Individuals will not have to take the ACCUPLACER assessment if they have scored well enough on an approved standardized test within three (3) years of entering an NWTC program. The test must assess reading, writing and arithmetic skills. Other approved tests are:

• ACT from American College Testing Service
• SAT
• Asset
• Compass
• Descriptive Tests (DT)

Students who don't have a high school diploma, GED, or HSED will also need to get certain minimum test scores in order to receive federal financial aid. Please refer to the financial aid section of this catalog for additional information on Ability to Benefit requirements.

Any questions regarding the skills assessment process should be directed to Susan Vyse, NWTC Assessment Center Supervisor, at (920) 498-6310 or (800) 422-NWTC, ext. 6310.

ACCUPLACER Helps Students Find The Right Place

ACCUPLACER BENCHMARK SCORES

What follows is a list of benchmark scores for each NWTC program. Each benchmark represents a skill level considered necessary for a student to be successful in that program. Students who don't receive scores in their desired range can receive free assistance through NWTC's skill labs in order to prepare for a program. A general description of skills at various score levels follows this table.

Program	Reading Comprehension	Sentence Skills	Arithmetic	Algebra
Accounting	54-66	60	36-40	N/A
Accounting Assistant	54-66	60	36	N/A
Administrative Assistant	66-67	81-83	36	N/A
Advanced Auto Body Repair	68-69	73-80	55-65	N/A
Agribusiness/Science Technology	90-94	89-94	66-72	54-55
Architectural Technology	66-67	84-85	66-72	45-50
Auto Collision Repair and Refinish Technician	68-69	73-80	55-65	N/A
Automotive Maintenance Technician	78-85	73-80	41-43	N/A
Automotive Technician	78-85	73-80	41-43	N/A
Business Administration Credit	68-70	62-68	36	N/A
Child Care	52	60	36	N/A
Civil Engineering Technology - PWT	52	60	73-82	76
Corrections Science	52	60	36	N/A
Dental Assistant	52	60	36	N/A
Dental Hygienist[1]	75-78	84-88	90-111	60-69
Diesel and Heavy Equipment Technician	43-53	58-61	41-43	N/A
Dietary Manager	52	60	36	N/A
Electrical Power Distribution	88-89	86-87	66-72	54-55
Electricity	52	60	36-40	46-50
Electro-Mechanical Technology/Control Systems Technology	52	60	88-95	76
Electronics	52	60	88-95	76
Emergency Medical Technician-Basic[1]	Reading test required			
Farm Business and Production Management[2]	52	60	36	N/A
Financial Institutions Management	68-70	62-68	36	N/A
Fire Protection Engineering Technology	57-65	60	36	N/A
Gas Utility Construction and Service	88-89	86-88	66-72	54-55
Health Care Business Services	71-74	76-80	77-81	N/A
Health Information Technology[1]	71-74	76-80	77-81	N/A
Heating, Ventilation, Air Conditioning, and Refrigeration Technology	43-53	60	83-86	77-78
Hospitality & Tourism Management	57-65	60	36	N/A
Individualized Technical Studies	52	60	36	N/A
Industrial Mechanic	52	60	41-43	N/A
Jewelry Repair and Fabrication	77-78	58-61	55-65	N/A
Laboratory Technology	88-89	89-94	88-95	47-50
Landscape Horticulture Technician	66-67	89-94	51-54	N/A
Logistics	52	60	36	N/A
Machine Tool Operation	75-77	60	66-72	N/A
Machine Tooling Technics	75-77	60	66-72	N/A
Marketing	52	60	36	N/A
Marketing & Graphic Communications	78-85	86-88	51-54	N/A

Program	Reading Comprehension	Sentence Skills	Arithmetic	Algebra
Material Handling Equipment Mechanic	52	60	36	N/A
Mechanical Design Technician	78-85	60	96-106	76
Medical Assistant	52	60	36	N/A
Medical Laboratory Technician[1]	75-78	84-88	90-111	60-69
Microcomputer Application Software Technician (CIS)	95-97	95-101	66-72	86-87
Microcomputer Specialist CIS)	95-97	95-101	66-72	86-87
Model Building Design and Construction	52	60	41-43	71-74
Network Specialist (CIS)	90-94	81-83	66-72	86-87
Nursing Assistant	52	60	36	N/A
Nursing - Associate Degree[1]	75-78	84-88	90-111	60-69
Office Assistant	66-67	81-83	36	N/A
Paralegal	78-85	108-111	66-72	N/A
Paramedic - Emergency Medical Technician[1]	Reading test required			
Physical Therapist Assistant[1]	75-78	84-88	90-111	60-69
Police Science	52	60	36	N/A
Power Engineering and Boiler Operator	52	60	36	N/A
Practical Nursing	68-70	90-94	41-43	N/A
Press Technician-Printing	78-85	86-88	51-54	N/A
Programmer/Analyst (CIS)	95-97	89-94	66-72	86-87
Quality Assurance Technician	95-97	89-94	66-72	86-87
Respiratory Care Practitioner[1]	75-78	84-88	90-111	60-69
Retail Management	86-87	95-101	107-116	N/A
Speech-Language Pathologist Assistant[1]	75-78	84-88	90-111	60-69
Supervisory Management	52	60	36	N/A
Surgical Technologist	52	60	36	N/A
Weld Inspection	52	58-61	41-43	N/A
Welding	52	58-61	41-43	N/A
Wood Technics	71-74	73-80	73-82	N/A

[1] Refer to program description in catalog for additional entry requirement information.

[2] Test will be administered at the instructors' discretion.

ACCUPLACER Helps Students Find The Right Place

WHAT DO THE SCORES MEAN?
Following are the skills typically demonstrated by students at each of several score levels.

READING COMPREHENSION

Total Right Score of about 51
Students at this level are able to comprehend short passages that are characterized by uncomplicated ideas, straightforward presentation, and for the most part, subject matter that reflects everyday experience.
These students are able to:
- recognize the main idea and less central ideas
- recognize the tone of the passage when questions do not require fine distinctions
- recognize relationships between sentences, such as the use of one sentence to illustrate another

Total Right Score of about 80
Students at this level are able to comprehend short passages that are characterized by moderately uncomplicated ideas and organization.
These students are able to:
- answer questions that require them to synthesize information, including gauging point of view and intended audience
- recognize organizing principles in a paragraph or passage
- identify contradictory or contrasting statements

Total Right Score of about 103 or higher
Students at this level are able to comprehend passages that, although short, are somewhat complex in terms of the ideas conveyed, and that deal with academic subject matter, often in a theoretical framework.
These students are able to:
- extract points that are merely implied
- follow moderately complex arguments or speculations
- recognize tone
- analyze the logic employed by the author in making an argument

SENTENCE SKILLS

Total Right Score of about 53
Students at this level can:
- solve problems in simple subordination and coordination in a sentence with one or two clauses
- correct sentence fragments

Total Right Score of about 86
Students at this level can:
- solve problems of faulty coordination and subordination in a sentence with one or two clauses

- manipulate complex verb tenses
- correct misplaced modifiers
- solve problems that combine grammar and logic

Total Right Score of about 110 or above
Students at this level can:
- manipulate complex sentences with two or more subordinate clauses
- correct problems of syntax and repetitive diction
- recognize correct and incorrect linkages of clauses, including problems involving semicolons

ARITHMETIC

Total Right Score of about 31
Students at this level can:
- perform simple operations with whole numbers and decimals (addition, subtraction, and multiplication)
- calculate an average, given integer values
- solve simple word problems
- identify data represented by simple graphs

Total Right Score of about 57
Students at this level have basic arithmetic skills.
These students can:
- perform the basic arithmetic operations of addition, subtraction, multiplication, and division using whole numbers, fractions, decimals, and mixed numbers
- make conversions among fractions, decimals, and percents

Total Right Score of about 90
Students at this level have adequate arithmetic skills. **These students can:**
- estimate products and squares of decimals and square roots of whole numbers and decimals
- solve simple percent problems of the form p% of q = ? and ?% of q = r
- divide whole numbers by decimals and fractions
- solve simple word problems involving fractions, ratio, percent increase and decrease, and area

Total Right Score of about 112
Students at this level have substantial arithmetic skills. **These students can:**
- find equivalent forms of fractions
- estimate computations involving fractions
- solve simple percent problems of the form p % of ? = r
- solve word problems involving the manipulation of units of measurement

- solve complex word problems involving percent, average, and proportional reasoning
- find the square root of decimal numbers
- solve simple number sentences involving a variable

ELEMENTARY ALGEBRA

Total Right Score of about 25
Students at this level have minimal pre-algebra skills. **These students demonstrate:**
- a sense of order relationships and the relative size of signed numbers
- the ability to multiply a whole number by a binomial

Total Right Score of about 57
Students scoring at this level have minimal elementary algebra skills. **These students can:**
- perform operations with signed numbers

The ability to perform with algebraic expressions is beginning to emerge. **These operations include:**
- combining like terms
- multiplying binomials
- evaluating algebraic expressions

Total Right Score of about 76
Students at this level have sufficient elementary algebra skills. By this level, the skills that were beginning to emerge to a Total Right Score of 57 have been developed. **Students at this level can:**
- add radicals, add algebraic fractions, and evaluate algebraic expressions
- factor quadratic expressions in the form $ax2 + bx + c$, where a = 1
- factor the difference of squares
- square binomials
- solve linear equations with integer coefficients

Total Right Score of about 108
Students at this level have substantial elementary algebra skills. **These students can:**

- simplify algebraic expressions
- factor quadratic expressions where a = 1
- solve quadratic equations
- solve linear equations with fractional and literal coefficients and linear inequalities with integer coefficients
- solve systems of equations
- identify graphical properties of equations and inequalities
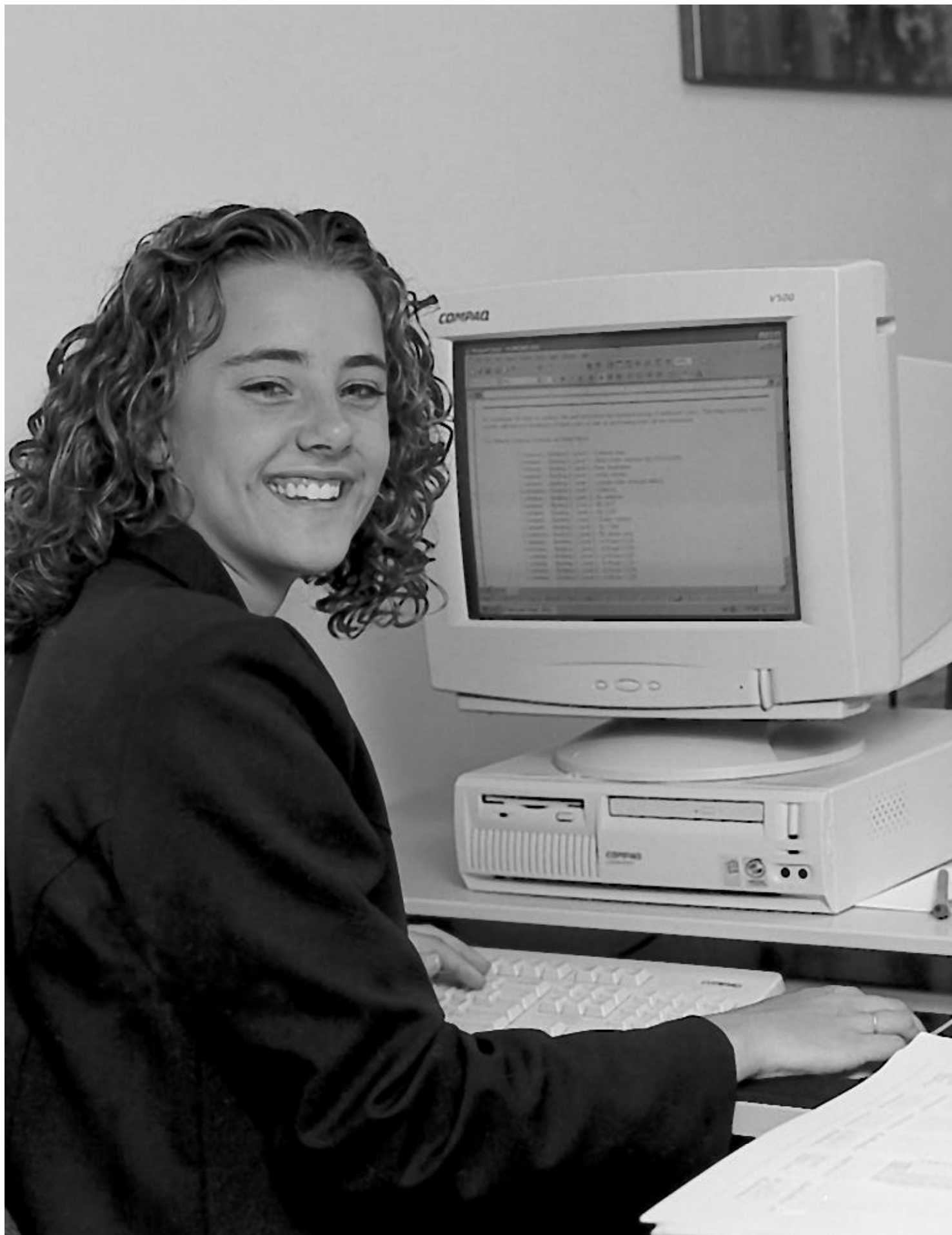
Financial Aid

OBJECTIVES

The Financial Aid Office wants to be sure that no students are denied an education because they can't afford to attend the College. The Financial Aid Office helps students whose personal and family funds do not cover the expenses involved in attending the College.

Financial Aid is available to students in financial need through loans, grants, and work study employment. The Financial Aid Office also provides information on other types of financial assistance, such as scholarships.

Students should apply for financial aid in the January before they will start school, or as soon after January as possible. They may apply for aid before they are accepted into a degree or diploma program. However, a financial aid award letter is not sent to students until they have been accepted into a program.

ELIGIBILITY

To be eligible for federal or state aid programs, students must:

- Have financial need
- Be accepted in an eligible program
- Be a U.S. citizen or an eligible non-citizen (permanent resident)
- Be a Wisconsin resident for state funds
- Be registered with the Selective Service if required to do so
- Not be in default on a student loan nor owe a repayment on a student grant
- Maintain satisfactory progress, as defined by the College

ENROLLMENT STATUS IS BASED ON THE NUMBER OF CREDITS BEING TAKEN

Full-time = 12 or more credits
3/4 time = 9 - 11 credits
Half-time = 6 - 8 credits

APPLICATION PROCEDURE

When students apply for financial aid, the earnings and savings of the student and his or her family are used to determine financial need. The application process includes several steps.

A. New FIRST-YEAR students

1. Get a Free Application for Federal Student Aid (FAFSA) from a high school counselor or the NWTC Financial Aid Office.

2. Complete the FAFSA and mail according to the instructions, or apply online at www.fafsa.ed.gov.

3. Students will receive a Student Aid Report (SAR) from the Federal Processing Center within four weeks. Be sure that the information is correct. If corrections need to be made, let the Financial Aid Office know.

4. Complete a Technical Occupational Program (TOP) grant registration form and return it to the Financial Aid Office if you meet the defined criteria.

5. Provide all additional information the Financial Aid Office requests.

6. Based on the financial need and number of credits the student is taking, the Financial Aid Office will determine the amount of aid in grants, work study, and loans the student is eligible to receive. An Award Letter will be sent to each student with this information when the student is accepted into a program.

B. CONTINUING and TRANSFER students

Follow steps 1 - 6 above. NOTE: If a Renewal Application was received in the mail, use the Renewal Application rather than filling out a new application.

Students must follow this procedure for each academic school year. The Financial Aid Application (FAFSA) is available in mid-January for the next school year.

TYPES OF FINANCIAL AID

Students who complete the FAFSA are considered for a variety of programs.

FEDERAL PELL GRANT

The Federal Pell Grant program gives a base of aid to which all other types of aid are added. Pell Grants are based on financial need and are pro-rated according to the student's enrollment status.

FEDERAL WORK-STUDY (FWS)

This program provides employment to students attending school at least half time who have financial need. Work-study students are paid $6.75 per hour. The typical work-study job is 10 to 15 hours per week. Jobs are available for off-campus as well as on-campus positions.

FEDERAL SUPPLEMENTAL EDUCATIONAL OPPORTUNITY GRANT (FSEOG)

This grant is for students who have a large financial need. The student must be eligible for the Federal Pell Grant Program in order to receive a FSEOG.

TECHNICAL OCCUPATIONAL PROGRAM (TOP) GRANT

This grant is NOT based on financial need. Eligible students could receive $250/semester for up to four semesters. To qualify, students must enroll FULL-TIME (12 or more credits) in an associate degree or technical diploma program within three years of graduation from a Wisconsin high school or earning a High School Equivalency Diploma (HSED). To maintain eligibility, students must maintain full-time enrollment status and a 2.0 grade point average. Grants will be automatically applied to your costs of tuition and fees at the beginning of each semester. Registration forms can be picked up in the Financial Aid Office.

WISCONSIN HIGHER EDUCATION GRANT (WHEG)

To receive a WHEG the student must be a Wisconsin resident attending a Wisconsin College at least half-time.

TALENT INCENTIVE PROGRAM (TIP)

The Talent Incentive Program grant is run by the Wisconsin Higher Educational Aids Board. To be eligible, the student must be a resident of Wisconsin, be enrolled at least half time and show financial need. All TIP recipients must be eligible for WHEG grants.

WISCONSIN MINORITY GRANT

The Minority Grant program is run by the Wisconsin Higher Educational Aids Board. To be eligible, the student must be a Wisconsin resident, be enrolled at least half time, demonstrate financial need, and be in the second year of a two-year program.

BUREAU OF INDIAN AFFAIRS GRANT (BIA)

Native American students (with at least 1/4 Indian lineage) enrolled full-time may receive aid from the Bureau of Indian Affairs. To be considered for this grant, students must contact their Tribal Education Office for an Indian Scholarship Application.

WISCONSIN INDIAN ASSISTANCE GRANT (WIAG)

This grant is for Native American students who are Wisconsin residents attending a Wisconsin college. To be considered for this grant, students must complete an Indian Scholarship Application with their Tribal Education Office.

WISCONSIN DEAF/BLIND HANDICAPPED

Visually challenged or hearing impaired Wisconsin residents may qualify for a Grant for Handicapped Persons. These grants are run by the Wisconsin Higher Educational Aids Board and are based on financial need. To be considered for this grant, the student must contact the Wisconsin Higher Educational Aids Board in Madison, WI at (608) 266-0888.

FEDERAL FAMILY EDUCATION LOAN PROGRAMS

FEDERAL STAFFORD LOAN (FSL)

This program makes low-interest loans available through local lenders to students who have financial need and who are enrolled at least half-time. Loans will be made only for the amount of educational expenses not paid through other types of financial aid. The Financial Aid Office will certify the loan and a Master Promissory Note (loan application) will be sent. The student should not get an application from a lender.

FEDERAL UNSUBSIDIZED STAFFORD LOAN (FUSL)

The FUSL Program makes low-interest loans available to students who may not have the financial need necessary for the FSL. The government does not subsidize this program, so the student is responsible for the interest on the FUSL. Loan request forms are available from the Financial Aid Office. The student should not pick up an application from a lender.

FEDERAL PARENT LOANS FOR UNDERGRADUATE STUDENTS (PLUS)

This program makes loans available to parents of dependent students. Applications are available from lenders.

VETERAN INFORMATION

Students who want to use Veterans Educational Benefits must complete the required forms each semester and submit the necessary paperwork to the Veterans Services Office (3329) at the same time they apply for admission to a program.

Assistance is available for federal and state benefits. Further information can be obtained in the Veteran Services Office, or by calling (920) 498-6292.

Scholarships

NORTHEAST WISCONSIN TECHNICALCOLLEGE EDUCATIONALFOUNDATION INC.

The Northeast Wisconsin Technical College Educational Foundation, Inc. is a public non-profit corporation that was established to assist in supporting the mission of the College. The Foundation acts as an agent through which contributions are managed and distributed. Contributions to the Foundation are applied toward student scholarships, faculty development, equipment acquisition, and facility enhancement.

Contributions to the Foundation can be made by sending a tax deductible donation to:

> Northeast Wisconsin Technical
> College Educational Foundation, Inc.
> 2740 West Mason Street
> P.O. Box 19042
> Green Bay, WI 54307-9042
> (920) 498-5426 or (800) 422-NWTC, ext. 5426

GET $1,000 FOR YOUR TUITION WITH TECHNICAL OCCUPATIONAL PROGRAM (TOP) GRANTS

Recent high school graduates who enroll at NWTC can automatically qualify to receive up to $1,000.

To be eligible, students must do the following:
- Enroll within three years of graduation from a Wisconsin high school or within three years of receiving an HSED in Wisconsin.
- Enroll full-time (12 or more program credits per semester) as a first year student in an Associate Degree or Technical Diploma program.
- Maintain a semester grade point average (GPA) of 2.0 or better.

Students will receive a grant of $250 each semester, up to $500 per school year for two years. Grants will be applied to each student's tuition and fees at the beginning of each semester.

Maximum awards are: $1,000 for two-year Associate Degree Programs, $500 for one-year Technical Diploma Programs.

To be eligible, students may not have received more than 18 credits from a Technical College since high school graduation.

For more information on the TOPgrant, please contact the NWTC Financial Aid Office or see NWTC's Web site, www.nwtconline.com.

NORTHEAST WISCONSIN TECHNICAL COLLEGE ALUMNI ASSOCIATION

The Alumni Association was established to mentor and support NWTC students, staff, and Foundation by enhancing the image and visibility of the College and establish student scholarships.

The Alumni Association is structured with an Executive Board of Directors that acts as the decision-making body of the association. The Alumni Board works together with the Educational Foundation Board of Directors in supporting the mission of Northeast Wisconsin Technical College.

Alumni who are interested in staying involved with the College, meeting other graduates, and contributing to the education of other students should contact the NWTC Institutional Advancement/Foundation office, (920) 498-5426, or (800) 422-NWTC, ext. 5426.

Alumni who change their address or who want to participate in the College's Employment Assistance Services should contact the Student Life office, (920) 498-5449, or (800) 422-NWTC, ext. 5449.

Credit for Prior Learning

Thank you for considering enrollment at NWTC. Each year the College has entering students who may have already acquired some of the skills, knowledge, and competencies for the courses or programs they are interested in. We encourage you to review the following policies for awarding credit for prior learning to determine if any of them can benefit you.

POLICY ON CREDIT FOR PRIOR LEARNING

The College recognizes that skills and knowledge may be gained in ways other than through formal classroom or laboratory learning. Students must be officially enrolled in a degree, diploma, or certificate program before receiving credit for prior learning. A minimum of 25 percent of core course requirements must be taken through NWTC. Forms are available through the Student Services Office.

1. **CREDIT BY SECONDARY SCHOOL WRITTEN AGREEMENT**
   Students may request credit for prior learning through written agreements between NWTC and accredited high schools in the District. NWTC also honors credit for prior learning agreements between secondary schools and other technical colleges in Wisconsin. The same conditions apply as listed in policy #2 below.

2. **CREDIT FOR YOUTH APPRENTICESHIP PROGRAM**
   A student who has completed a state approved youth apprenticeship program will be awarded credit for a specific technical college course(s) under the following conditions:

   • The student enrolls within 27 months of high school graduation in a NWTC program directly related to the student's work-based program; and
   • The student presents appropriate documentation of successful completion of the youth apprenticeship program; and
   • The student achieved at least a B in youth apprenticeship course(s).

3. **CREDIT FOR YOUTH OPTIONS PROGRAM**
   A student may receive prior learning credit for having participated in the Youth Options program while attending a Wisconsin public high school. It is the policy of the College to allow a high school student to enroll in any postsecondary course for which the student meets the course admission requirements and the following Youth Options eligibility requirements. *An individual must:*
   • Be enrolled in a public high school in Wisconsin and have completed the 10th grade
   • Be in good academic standing and meet course entry requirements
   • Have an acceptable disciplinary record
   • Have the written approval of his or her parent or guardian

4. **CREDIT FOR PRIOR LEARNING FOR JOURNEY LEVEL APPRENTICESHIP TRAINING**
   Apprentices who have completed their training and obtained journey level status are eligible for credit for prior learning toward an associate degree. For information, contact the Admissions Office.

5. **CREDIT BY NWTC EXAM**
   A student may be granted credit for a specific technical college course(s) by demonstrating competency through a performance or practical exam. Request forms for credit by examination are available from counselors or at the Registration Office. A per credit, nonrefundable fee is charged for each examination attempted.

6. **CREDIT BY NATIONAL EXAM**
   A student may be granted credit for a Northeast Wisconsin Technical College course(s) by receiving a minimally acceptable score on an examination with nationally recognized standards. National exams include, but are not limited to, the College Board Advanced Placement (AP) exams, the College-Level Examination Program (CLEP), and nationally recognized exams in specific occupational areas.
   • In granting credit, the College considers the achievement of an acceptable score on the examination and the applicability of the knowledge, skills, and competencies measured by the examination as it relates to the educational program in which the student is enrolled.
   • For AP exams, a student must receive a score of three or above to be eligible for the awarding of credit for the completion of the appropriate college course(s).

7. **CREDIT FOR PRIOR LEARNING FOR WORK OR LIFE EXPERIENCE**
   Students may be granted credit for previous work, life, and military experiences that are comparable in content and level with specific NWTC courses. Portfolio documentation will be required and assistance in developing a portfolio is available through the Green Bay campus Communication Skills Lab or the Basic Skills Lab located in your community. Forms are available from a counselor or at the Registration Office.

8. **TRANSFER OF CREDIT FROM OTHER COLLEGES OR UNIVERSITIES**
   To transfer credits from other colleges or universities to NWTC, students must provide the NWTC Admissions Office with their official transcripts and records of educational assessments.

   The NWTC Prior Learning Committee reviews all requests for transfer of credit. The committee may grant credit if the course content being transferred is equivalent, and if satisfactory grades (C or better) were received.

APPEAL PROCEDURE

Decisions involving the granting of prior learning credit may be appealed. All appeals must be in writing and addressed to the Office of the Vice President of Student Services at the Green Bay campus.

Credit for Prior Learning

**TRANSFER OF NWTC CREDIT
TO OTHER COLLEGES**
Many private colleges willingly accept associate degree credit from NWTC. A student is encouraged to contact the receiving college a student wishes to attend in order to address questions regarding specific courses to be transferred from NWTC. The receiving college will determine the number of acceptable credits transferred.

**TRANSFER OF NWTC CREDIT
TO UW SYSTEM SCHOOLS**
Students enrolled at NWTC who wish to continue their education in the University of Wisconsin System may be eligible to transfer credits toward a bachelor's degree in several ways.

1. Students may be eligible to transfer up to 15 credits of General Education course work.

2. Students who have successfully completed an associate degree may be eligible to transfer certain technical support and/or occupational credits when there is a direct relationship between the associate degree program and a program offered at the UW System Institution.

3. Students transferring from NWTC may be eligible for credit by earning appropriate scores on national standardized examinations (e.g., College Level Examination Program) or examinations developed by the UW System transfer institution.

4. Students may take advantage of articulation agreements between NWTC and specific UW institutions for some programs.

5. Students may also have individual courses evaluated for transferability by UW System staff.

TRANSFER INFORMATION SYSTEM (TIS)
The Transfer Information System (www.uwsa.edu/tis/) is an information and transfer guide for students and staff in the University of Wisconsin system and the Wisconsin Technical College System. It is an Internet program designed to provide potential transfer students with current and accurate information to help them make more informed transfer decisions. The Transfer Information System (TIS) is divided into four major sections:

1. Transfer of Courses
2. Institutional Information
3. Academic Programs and Requirements
4. Transfer Progress Reviews

The information in the Transfer Information System is provided by the institutions and represents official institutional information. Although the information is intended to be current and accurate, it should NOT be considered a substitute for formal admission or transfer procedures. Since course transfer information may vary based upon specific majors or programs, the admissions counselor at each institution should be contacted.

Youth Options

WHAT IS YOUTH OPTIONS?

Youth Options is a program that opens the door to greater learning opportunities for qualified high school juniors and seniors. Students who are considering a technical career, wishing to begin college early, or wanting to prepare to enter the workforce immediately after high school graduation will be interested in Youth Options. The program allows students to take post-secondary (college-level) courses at NWTC.

The student does not have to pay for a post-secondary course if the high school board determines the course is not comparable to a course offered by the high school. If approved by the high school board, the student will receive both high school and post-secondary credit for a successfully completed course.

WHO IS ELIGIBLE FOR YOUTH OPTIONS?

Any student who has completed the 10th grade; is in good academic standing; does not have a record of disciplinary problems, as determined by the high school; and does not meet the statutory definition of a "child-at-risk" may participate in the Youth Options program.

HOW DO I START ?

The necessary forms can be obtained from the high school counseling office or information may be requested from NWTC Services for Students. The student must obtain his or her parent or guardian's signature. The student will then meet with the high school counselor to discuss how Youth Options will fit into the student's high school schedule. With the assistance of the high school counselor, the student makes course selection(s) and submits those choices to the student's school board by March 1 for the Fall semester or October 1 for the Spring semester.

The forms must be submitted to NWTC. The student is required to attend an Orientation at NWTC prior to registration for the course(s) chosen.

WHAT COURSE CHOICES ARE AVAILABLE TO A YOUTH OPTIONS STUDENT?

A student will find many choices available. Courses are available on all three campuses, through Interactive Television (ITV), Technical College of the Air (TCA), and over the Internet. Any associate degree or technical diploma course may be taken, as long as all admission and prerequisite requirements are met. Courses offered during the summer session are not eligible for the Youth Options Program.

Suggested Classes to take at NWTC:
General Education
Communication Interpersonal, 801-196
Communication Written, 801-195
Computer Applications, 804-182
Economics, 809-195
Psychology - Human Relations , 809-199
Psychology - Introduction, 809-198
Society - American Contemporary, 809-197
Society - Intro - 809-196
Speech, 801-198
Tech Math I, 804-150

Business and Marketing
Accounting I, 101-110
Banking Principles, 102-151
Bookkeeping I-Applied, 101-311
Computer Concept/Applications, 107-112
Customer Service Management, 104-191
Customer/Employee Relations, 109-122
Health Care-Administration/Organization, 160-110
Hospitality/Tourism, 109-110
Information Processing Principles, 106-103
Insurance - Health, 104-161
Intro to Micro Software, 107-161
Intro to Paralegal, 110-101
Intro to Printing, 204-110
Law Business, 102-150
Logistics Management, 182-157
Marketing Presentations, 111-124
Marketing Principles, 104-110
Math - DPLogic, 804 -151
Math - Finance, 102-101
Medical Ethics/Law, 102-121
Micro Basics MS Office I, 103-103
Micro Hardware, 107-162
Micro Software I Intro, 107-161
Network: Data Communication I, 107-165
Retail Principles, 104-190
Selling Principles, 104-101

Health and Community Services
Anatomy and Physiology I, 806-182
Anatomy/Struc-Funct, 512-312
Child/Family Daycare, 307-318
Childhood - I Early, 307-316
Criminal Justice - Introduction, 504-116
Dental/Personal Relationship, 508-309
Dental Science Biomedical, 508-310
Human Growth/Development, 809-190
Info Application Health Processing, 106-109
Mass Media Health, 510-180
Medical Terminology, 510-165
Nursing Assistant Basic, 510-355
Nursing/Pharmacology, 510-166
Nutrition - Family Growth/Dev, 510-325
Nutrition Pathways (TCA), 510-101
Personal Vocational Issues 1, 510-328
Pharmacology, 806-185
Women's Issues, Health - 510-181

Trades and Technical
Air Conditioning Fundamentals, 601-110
Animal Science, 080-123
Architectural Drafting Principles, 614-115
Auto Performance I, 404-315
Blueprint Reading/Construction, 493-350
CAD, 606-113
CNC Practice I, 420-311
Diesel Engine Fundamentals, 412-310
Engineering Applications, 606-112
Environmental Science, 506-120
Exploring Mechanical Design, 606-111
Farm Mechanization/Material Handling, 080-153
Fire Protect Tech - Intro, 503-111
Food Science, 065-120
Intro to Model Building, 614-114
Technical Sketching, 606-119
Technical Skills/Practices, 605-118
Veterinary Medical Terminology, 091-170
Welding Theory and Practice, 442-310
Wood Tech - Carpentry, 410-310

Offered through the Green Bay, Marinette, and Sturgeon Bay Campuses

For more information, call the Green Bay campus at (920) 498-6868 or (800) 422-NWTC, ext. 6868.

Flexible Learning Options provide ways of taking courses at times and locations which go beyond the traditional college day. They are especially valuable for working adults who need to fit college into busy work and family schedules, but they can help anyone make education possible. For details about Flexible Learning Options, students may check NWTC's Web site or call Customer Service at (800) 422-NWTC, ext. 6886. To find out whether any of their courses are offered through FLO, students should consult a counselor.

ACCELERATED LEARNING

Accelerated courses use special instructional techniques chosen for their ability to help students learn and retain large amounts of information. Students do much of their learning on their own, often on the job, so that required classroom time is shortened. Most courses will require about one half the amount of class time compared to traditional courses.

Accelerated courses require highly motivated students who are already on the job. They will need to draw from their work experience to fully participate in the wide variety of learning experiences and projects. Accelerated courses require reading and an assignment to be completed before the first class. Assignment packets are mailed to students prior to their first class.

Although not required, a one-credit course, Student Orientation to Learning, is strongly recommended for students taking an Accelerated class for the first time.

SELF-PACED LEARNING

A variety of computer and general studies courses are offered in the Self-Paced format.

Self-Paced Math and Communications courses allow you to proceed at your own pace. Student Labs are available at the main campus of NWTC and in a variety of Community Learning Centers throughout the district.

Self-Paced Computer Courses offer great flexibility. You can register and begin anytime, work at your own pace, when it is convenient for you and where it is convenient for you. You can work at NWTC or at home (if you have Microsoft Office on your home computer) to complete the work. If you want to work on the Keyboarding or Speed and Accuracy building classes at home, you can purchase the home-kit version and install the software on your home computer. You only need to come in to the Self-Paced lab for periodic evaluations.

Self-Paced courses are best for learners that are self-disciplined and work well without supervision. Help is available from lab instructors when you need it. Shift workers, parents, or individuals who have a busy or changeable schedule may find Self-Paced courses fit their needs.

WEEKEND COLLEGE

Weekend College is an alternative, non-traditional way to pursue educational objectives at NWTC. Courses are offered on the weekend (Friday night and/or Saturday) and meet one to four weekends per month. Classes usually meet for four to eight hours.

Credit and non-credit courses are available. Most of the credit courses "ladder" into a specific certificate, technical diploma, or associate degree. Several Certificates can be completed completely on the weekend.

CERTIFICATES

Certificates are designed to help busy students learn skills in short blocks of time. Certificates range from six to eighteen credits. NWTC offers forty-seven certificates, four non-credit and forty-three credit. For the most up-to-date information, please check the NWTC Web site.

Every technical diploma and associate degree program at NWTC has an advisory committee made up of instructors, industry representatives, former graduates, and community members. Those advisory committees have designed the certificates as groupings of courses that can help students enter a new field, change fields quickly, or improve their skills in an existing field. The college develops new certificates in response to the ever-changing needs of business and industry.

Certificates are offered in a number of Flexible Learning Options including weekend and evening class times, Internet, distance learning (ITV), accelerated formats, and more. Certificate credits can be applied to NWTC associate degree and technical diploma programs.

For more information, or for a Certificate Option Book listing all the certificates and including a schedule of guaranteed course listings, contact Flexible Learning Coordinator, Sally Martin, (920) 498-6866, smartin@nwtc.tec.wi.us.

Credit Certificates
Business Writing *New!*
CAD (Computer Aided Drafting)
Chemical & Instrumental Analysis Technician
Child Care Administration

Child Care Basics
Community Dental Health
Crop Technician
Electronic Marketing *New!*
Environmental Laboratory
Ethical Leadership
Facility Operations
Food Laboratory
Food Service Specialist Supervisor
Gemology
General Studies
Global Business *(Replaces International Business)*
Guest Service Representative
Health Care Business Services
Health Care Finance
Infant Toddler Credential *New!*
Integrated Resource Management
Interpersonal Communication *New!*
Leadership in a Learning Organization
Livestock Technician
Medical Coding Basic
Medical Coding Advanced
Medical Transcriptionist Basic
Medical Transcriptionist Advanced
Microcomputer Programmer
Microcomputer Specialist Online *New!*
Power Engineer and Boiler Operator
Production and Inventory Control Technician
Promotion Management *New!*
Purchasing
Quality
Retail Leadership
Small Business
Software Level 1
Supervision
Transportation
Web Graphic Design

Non-Credit Certificates
HVAC/R (Heating, Ventilating, Air Conditioning and Refrigeration)
Landscape Horticulture
Plant Engineering Mechanical Maintenance
Welder-Entry Level

INDIVIDUAL TECHNICAL STUDIES

Rapid changes in technology and work processes have created a growing demand for employees with enhanced skills that cut across traditional occupational categories. This versatile associate degree complements industry needs, enabling students to combine the skills taught in two or more existing NWTC programs. Each degree is designed in cooperation with an occupational mentor from the target industry and an academic advisor from NWTC. As a result, students earn an associate degree tailored to their specific employment needs. For more information about Individual Technical Studies, contact Sally Martin, Flexible Learning Coordinator, (920) 498-6866.

Flexible Learning Options

VIRTUAL CAMPUS

Through Virtual Campus Web-based learning, students will access courses and services anywhere, any time directly through a computer. They will have access to financial aid packages, counseling, placement testing, and other specialized services. The Virtual Campus is currently in development among the 16 colleges of the Wisconsin Technical College System.

VIDEO CLASSES AND TECHNICAL COLLEGE OF THE AIR

Students learn at home and earn college credit through video courses. Delivery methods include Public Television broadcast, some cable systems, and videotapes. Videotapes are available for checkout at all NWTC campus libraries and public libraries located throughout the area. Tapes may also be obtained by calling the NWTC Technical College of the Air (TCA) Office. Upon registering, students may begin their courses at the semester start date or any time thereafter allowing increased entry and exit flexibility for learners.

The following three-credit video/TCA classes are available.

Abnormal Psychology
Business Law
Business Mathematics
Contemporary American Society
Economics
International Economics
Introduction to Business
Introduction to Psychology
Logistics Management
Medical Terminology
Nutrition Pathways
Oral/Interpersonal Communication
Personal Finance and Money Management
Principles of Marketing
Principles of Supervision
Selling Principles
Small Business Management
Speech
Technical Reporting
Written Communication

For information, call Sherry Olive at (920) 498-5571, or toll-free (800) 422-NWTC, ext. 5571.

INTERACTIVE TELEVISION (ITV)

Live Interactive Television (ITV) enables students in distant communities to gather in small groups and participate in classes being taught elsewhere. Through ITV, NWTC can offer courses and credentials in a multitude of areas including banking, marketing, law enforcement, safety, medical terminology, leadership skills, and communications.

In the past, it was difficult to deliver many courses to rural areas. ITV allows enrollments at three or four sites to be combined, increasing opportunities for learners. Through ITV, NWTC is able to offer more degrees, diplomas, certificates, and personal enrichment courses to areas outside the Green Bay campus than ever before. ITV also makes courses more convenient for students, because it can considerably reduce their commuting time.

ITV became possible with the establishment of a fiber-optic link between the Green Bay, Marinette, and Sturgeon Bay campuses. With these links established, the College can reach area high schools' sites through the TRITON, PenNet, BayNet, and KSCADE Distance Learning networks, which cover all nine counties in the NWTC district. These networks enable NWTC to provide advanced standing courses to high school juniors and seniors; adult continuing education courses at distant sites in the evenings; and services to business and industry. It can also connect with all other Wisconsin Technical Colleges and other K-12 schools.

The Green Bay campus has five ITV classrooms and the Marinette and Sturgeon Bay campuses each have two ITV classrooms. This allows NWTC to originate up to nine ITV classes simultaneously. Another enhancement to the system are computer labs in some of the ITV classrooms in Green Bay, Marinette, and Sturgeon Bay. This feature allows students at all three campuses to take computer courses and use Web based sharing software via the ITV network.

ONLINE COURSES

NWTC offers online courses which are available any time and anywhere students have access to the Internet— in the District or out of state, at the library or at home, during the day or late at night. Courses range from psychology to grammar to electrical certification. For more information visit http://online.nwtc.tec.wi.us.

Student Services

OBJECTIVE
Student Services offers information and assistance to students so they can achieve their objectives at NWTC and be better prepared to find employment and take their place in society.

STUDENT SERVICES DEPARTMENT
- Admissions
- Orientation
- Counseling
- Referral Services
- Follow-up
- Student Life
- Student Employment Services
- Student Health Services
- Alcohol & Other Drug Prevention/ Intervention Services
- Minority Student Assistance
- Registration
- Financial Aid
- Returning Adults
- Recruitment

CAREER CENTER
- Career Counseling
- Standardized Testing
- Career Planning and Assessments
- Occupational Information
- Tutoring Information

SKILLS CENTER
- Math Skills Lab
- Reading Skills Lab
- Writing Skills Lab
- Study Skills Lab

COUNSELING SERVICES
Counseling services are available for personal, educational, and vocational needs. All students should see a counselor before entering a program. Counselors have national certification through the National Board for Certified Counselors. Selected staff also have National Certification as Career Counselors. Counseling office hours at the three campuses are:

Green Bay Campus
Monday through Thursday   7:30 a.m. - 8:00 p.m.
Friday   7:30 a.m. - 6:30 p.m.
Saturday   7:30 a.m. - 11:30 p.m.
call Counseling Center (920) 498-6250

Marinette Campus
Monday through Friday   8:00 a.m. - 4:00 p.m.
Evening hours available:
call (715) 735-9361 for details

Sturgeon Bay Campus
Monday through Friday   8:00 a.m. - 4:00 p.m.
Evening hours available:
call (920) 743-2207 for details

SERVICES FOR STUDENTS WITH DISABILITIES
The College maintains a Special Needs/Services Office. To request special accommodations, please contact one of the following staff. For Green Bay courses, call (920) 498-5470 for voice and (920) 498-6901 TTY or (920) 498-6390 TTY (Telephone Device for the Deaf). For Sturgeon Bay and Marinette campuses and the Community Centers, contact the Dean or coordinator, who will then make the necessary arrangements with the Special Needs/Services Office.

EQUAL OPPORTUNITY
Northeast Wisconsin Technical College complies with all state and federal laws regarding equal rights in education and employment. The College has established the Affirmative Action and Special Needs offices to assure that equal opportunity is available without regard to race, color, national origin, creed, gender, sexual orientation, age, disability, marital status, ancestry, arrest/ conviction record, or other protected status in employment of staff and in admission to educational programs and activities sponsored by the College.

Questions concerning discrimination, harassment, and/or equal opportunity may be directed to the Green Bay campus Affirmative Action Office at (920) 498-6826. To file a complaint, provide a detailed description of the time, place, and circumstances to the appropriate personnel according to the grievance procedure outlined in the Student Handbook.

For information or copies of the grievance procedure, call the number above or write to:
Affirmative Action Officer
Northeast Wisconsin Technical College
2740 West Mason Street
P.O. Box 19042
Green Bay, Wisconsin 54307-9042

MULTICULTURAL AND INTERNATIONAL RESOURCE CENTER
The Multicultural and International Resource Center (MIRC) is here to assist NWTC's multicultured student body and to connect students with the global economy. The MIRC provides economic and cultural information, other-language student services and a "safe space" where
- minority-culture students can get support for their academic progress
- all students can learn about the countries and cultures they will encounter on the job
- students can get news and information in other languages

Information about various cultures - including printed materials, videos, and firsthand knowledge - is available to help both minority and majority culture students enrich their education. For instance, international resources and Internet access can support NWTC's Logistics degree program, International certificate program, and other programs that will involve students with a variety of customers after graduation.

Students involved with the MIRC can also find assistance in arranging for instruction in English as a Second Language, in pursuing their GED or HSED, and in overcoming other challenges to their education.

The Center offers a place where some students can speak their native language, and where individuals who speak other languages can call for other-language information about NWTC: (920) 498-6895 (in Hmong), or (920) 498-6894 (in Spanish), or by fax at (920) 498-6834.

Available periodicals include a Hispanic business magazine, Hmong language newsletter, the Vietnamese-language Asian Times, area tribal newspapers, and Black Issues in Higher Education.

All members of the public are welcome to visit the center, learn about NWTC, and share their background.

Student Life

Student Life at Northeast Wisconsin Technical College includes many activities outside of the normal classroom studies. Co-curricular and extra-curricular events are designed to provide a wide base of experience paralleling professional, leadership oriented, technical, civic, and social activities.

All student life events at the Green Bay, Marinette, and Sturgeon Bay campuses are conducted under the auspices of the Northeast Wisconsin Technical College District Board. All funds for these events are subject to the rules and regulations established by the Board. The allocation of student activity fees is the joint responsibility of Student Senate, Student Life Office, and Student Services.

STUDENT SENATE
Student Senate representatives from each officially-recognized school club and/or program are named at the beginning of each school year. They meet every two months to promote the welfare of the student body. The Student Senate Board, made up of officers elected from the representatives, outlines plans and policies for the Student Senate members.

STUDENT CLUBS
There are many student clubs active on the Green Bay, Marinette, and/or Sturgeon Bay campuses. The main purpose of each club is to provide the opportunity to gain educational experience in working toward desired club goals.

- ACET (Civil Engineering)
- Architectural
- Associate Degree Nursing
- Auto Club
- Bits & Bytes
- Business Professionals of America
- Collision Repair
- Criminal Justice Association
- Dental Assisting
- Dental Hygiene
- Diesel
- Electricity
- Food and Environmental Lab Technicians
- Health Care Business Services
- Horticulture
- Jewelry Repair & Fabrication
- Logistics
- Mechanical Design Technicians
- Medical Assisting
- Medical Lab Technicians
- Model Builders

- Multicultural Student Alliance
- Native American Student Association
- Physical Therapist Assistants
- Post-Secondary Agricultural Students
- Respiratory Care
- Student Practical Nurses
- SkillsUSAVICA
- Surgical Technologists
- WMMA(Wisconsin Marketing and Management Association)
- Young Farmers Association

COLLEGE EVENTS
Students are encouraged to join in the fun of special events and affiliations on campus.

- Campus Entertainment
- Children's Christmas Party
- District Ambassador Competition
- Evening Orientation Refreshments
- Game Room Tournaments
- Graduation Ceremonies
- Health Week
- Intramural Sports
- National Association for Campus Activities
- Student-Faculty Bowling League
- Student Senate
- Student Socials
- The Campus Voice (Student Newsletter)
- YMCAStudent Discounted Memberships
- Wisconsin Student Government

AWARDS BANQUET/DISTRICT AMBASSADOR AWARD
There are two major student life events in which participation is possible through nomination by a program or club sponsor.

1. The Awards Banquet is held in the spring to recognize program students for their outstanding efforts in achieving scholastic excellence and for overall classroom participation.

2. Students may also choose to participate in the District Ambassador Award competition. One District Ambassador is chosen each year from among the top students to represent Northeast Wisconsin Technical College and the Wisconsin Technical College System at community functions. The Ambassador is chosen through a series of personal interviews with the NWTC In-House Selection Committee and the Alumni Association Selection Committee.

CLUB RECOGNITION NIGHT
A Club Recognition Night is held each spring to recognize club members for their outstanding efforts as students achieving excellence for active club participation. The students nominated to receive this award and students who have won state and/or national competition events are presented with special certificates for their efforts.

BLOODMOBILE
The American Red Cross makes one visit to the Green Bay campus each semester. Students and staff of the College can meet some of their civic responsibility by donating blood.

GAME ROOM TOURNAMENTS
Tournaments that offer participation on a one-on-one or team basis are held each semester. These tournaments may include darts, foosball, pinball, ping pong, and pool. Other tournaments may be planned in special situations.

INTRAMURALSPORTS
All sports leagues are supervised by the Student Life Office. The intramural program currently includes basketball, bowling, and volleyball.

Shared Programs

A shared program is an Associate Degree or Technical Diploma offered jointly by two or more technical colleges. Northeast Wisconsin Technical College shares the following programs.

DIETARY MANAGER

Technical Diploma
Based at NWTC, shared with Nicolet Area Technical College, Moraine Park Technical College, and Fox Valley Technical College

Dietary Managers serve as managers for health care and other institutional facilities. The dietary manager supervises food service personnel; manages food procurement, production, storage; monitors business operations related to the food service department; interprets nutritional information; plans for nutritional care of patient/resident; and consults with a dietician as required for the development of therapeutic/special diets and menus.

Information: NWTC Admissions Counselor: (920) 498-5498 or (800) 422-NWTC, ext. 5498, or www.nwtconline.com.

SECURITY LOSS PREVENTION

Associate Degree
Based at Fox Valley Technical College

Security and loss-prevention personnel safeguard proprietary assets and prevent losses. Training covers intrusion devices, principles of loss prevention, security auditing, accounting and inventory procedures, investigative and legal aspects of law enforcement, and the various aspects of commercial, retail, and industrial security.

Courses consistent with the Police Inservice Program may be completed through NWTC. The rest may be completed through Fox Valley Technical College.

Information: NWTC Admissions Counselor: (920) 498-5498 or (800) 422-NWTC, ext. 5498.

SURGICAL TECHNOLOGIST

Technical Diploma (3 Semester Program Enter in Summer or Fall)
Based at NWTC, shared with Lakeshore Technical College

Surgical Technologist prepares and maintains a sterile field before and during surgery, passes instruments and supplies to the surgeon, provides safe patient care, and prepares instruments for the next operative procedures.

One Surgical Technologist course is available on the Internet. Clinical affiliations are facilitated in sites on the lakeshore, Green Bay area, and Fox Cities.

Information: NWTC Admissions Counselor: (920) 498-5498 or (800) 422-NWTC, ext. 5498, or www.nwtconline.com.

PHYSICAL THERAPIST ASSISTANT PROGRAM

Associate Degree
Based at NWTC, shared with Fox Valley Technical College

Physical Therapist Assistant carries out patient rehabilitation programs under the supervision of a physical therapist: carries out the program of exercise, re-teaches activities of daily living, conducts treatment using special therapeutic equipment, assists the physical therapist in evaluations and tests, and observes and reports patient responses.

Information: NWTC Admissions Counselor: (920) 498-5498 or (800) 422-NWTC, ext. 5498, or www.nwtconline.com.

CORRECTIONS SCIENCE

Associate Degree
Based at NWTC, shared with Fox Valley Technical College

Correctional Officer: monitors, supervises, and informally counsels inmates under his/her control; works cooperatively with other institutional staff; maintains order within the institution; enforces rules and regulations; searches inmates for contraband items such as weapons or drugs; transports inmates; settles disputes between inmates; enforces discipline; and reports verbally and in writing about inmate conduct and the quality and quantity of work done by inmates.

Northeast Wisconsin Technical College originates all core program courses. They are available on the Green Bay Campus and over the Internet.

Information: NWTC Admissions Counselor: (920) 498-5498 or (800) 422-NWTC, ext. 5498, or www.nwtconline.com.

RADIOGRAPHY

Associate Degree
Based at Lakeshore Technical College

Radiographers position patients to acquire needed films, selecting appropriate X-ray equipment, processing images (photographically or electronically), and storing and retrieving images. They are employed in radiology and imaging departments of hospitals, clinics, and diagnostic imaging centers.

Information: Lakeshore Technical College, (888) 468-6582 or www.ltc.tec.wi.us.

PHARMACY TECHNICIAN

Technical Diploma
Based at Lakeshore Technical College

Pharmacy technicians are trained supportive personnel for hospital and community pharmacies. The pharmacy technician assists the pharmacist in a variety of technical tasks involving the packaging, distribution, compounding, labeling, and recording of drugs. Interactive TV is used to broadcast to distant sites where the students also have lab instruction and clinical experience.

Information: Lakeshore Technical College, (888) 468-6582 or www.ltc.tec.wi.us.

COURT AND CONFERENCE REPORTING

Associate Degree
Based at Lakeshore Technical College

Court reporters work as official court reporters in the court system, freelance reporters, conference and convention reporters, legislative reporters, scopists, steno transcriptionists, and realtime captioners. Interactive TV is used to receive courses from LTC. Students are required to lease their own stenograph machines and laptop computers. Software is provided.

Information: Lakeshore Technical College, (888) 468-6582 or www.ltc.tec.wi.us.

Basic Education

BASIC EDUCATION CAMPUS AND COMMUNITY LEARNING CENTERS

Basic Education is designed to help people succeed in college, on the job, and in daily living. Individualized education and group courses are offered at Green Bay, Marinette, and Sturgeon Bay campuses and at Community Learning Centers. These classes can help students develop skills to achieve specific goals:

- Prepare to enter college
- Succeed in courses
- Keep a job or prepare for a new job
- Earn a High School Equivalency Diploma (HSED) or General Education Development (GED) certificate
- Learn English as a Second Language (ESL)
- Reach personal goals

All members of the public are welcome to use any of the services that meet their needs. There are no admission requirements for Basic Education services.

GETTING STARTED

Individuals will be evaluated to determine their strengths and areas for improvement. The student and an instructor or counselor will develop a Personal Learning Plan (PLP) based on the student's assessment results, goals, learning style, and abilities.

SKILLS HELP AVAILABLE THROUGH NWTC

A.MATH SKILLS
Basic Math (Arithmetic)
- Whole Numbers
- Fractions
- Decimals
- Percents
- Measurements

Algebra
- Real Numbers
- Algebraic Expressions
- Equations and Inequalities
- Word Problems and Measurements

B. READING SKILLS
Reading Rate
Comprehension
Vocabulary

C.COMMUNICATION (ENGLISH) SKILLS
Writing
Punctuation
Grammar
Capitalization
Spelling

D.ORIENTATION TO COLLEGE LEARNING

Individualized programs assist you in achieving academic success in areas such as:
- Note taking
- Concentration
- Listening
- Outlining
- Test taking
- Summarizing
- Textbook study
- Reference skills
- Time management
- Memory techniques

E. STUDY SKILLS SEMINARS
- Strategies for Textbook Study and Concentration
- Using Your Notes and Your Time to Your Advantage
- Preparing for Tests and Easing Anxiety
- Strategies for Studying Math

F. STRATEGIES FOR SUCCESS
- Successful student strategies
- "Make the grade" connections

OTHER COURSE AREAS

If you need help in a course, NWTC has FREE individual tutoring and/or group study to assist you. You may arrange for a tutor if you and your instructor agree that tutoring is needed, if you are attending class regularly, and if a tutor is available. To start the tutoring process, contact your program counselor or a Career Counseling Center counselor (Room 3334). Class study is available in math, reading, and English skills.

CHOOSE THE FORMAT AND LOCATION THAT MEETS YOUR NEEDS

The student can choose to study in one of the following formats.

A.Individual learning on an NWTC campus
- Open lab setting - students set their own schedules and work through required text at their own pace
- Instructors are available
- Three sites

Green Bay Campus   **(920) 498-5421**
Rooms 3319 and 3323
Monday - Thursday	7:30 a.m. to 8:20 p.m.
Friday	7:30 a.m. to 4:00 p.m.
Saturday	7:30 a.m. to 12:00 noon

Marinette Campus
Day and evening hours available
For information call (715) 735-9361

Sturgeon Bay Campus
Day and evening hours available
For information call (920) 743-2207

B. Classroom learning on the Green Bay campus
- Courses offered at set times
- For more information call (920) 498-5421

COMMUNITY LEARNING CENTERS:
- Algoma (920) 487-5600 or 437-2741
- Crivitz (715) 854-3276
- Florence (715) 528-5883
- Gillett (920) 855-6185
- Green Bay Wisconsin Job Center (920) 448-6460, ext. 245
- Green Bay Salvation Army (920) 405-9804
- Lena (920) 829-6029
- Niagara (715) 251-3790
- Oconto (920) 834-4621, ext. 131
- Shawano (715) 524-8406, ext. 4032
- Townsend (920) 855-6406

ENGLISH AS ASECOND LANGUAGE
- Varied sites and times
- Focus on reading, writing, listening, speaking, and using computers on five (5) skill levels.

For information on Green Bay English as a Second Language (ESL) classes, call (920) 498-6297.

For English as a Second Language (ESL) information in Spanish, call (920) 498-6894.

For English as a Second Language (ESL) information in Hmong, call (920) 498-6895.

For English as a Second Language (ESL) information in Russian, call (920) 498-5646.

Basic Education courses are not eligible for financial aid.

General Education

General Education courses provide work-oriented learning in Communications, Mathematics, Natural Science, and Social Science. They are designed to help learners succeed in college, on the job, and in daily living. All associate degree and most technical diploma programs require courses in General Education. In addition to supporting NWTC programs, many General Education courses can be transferred to other Wisconsin Technical Colleges and to four-year colleges and universities.

These courses are offered throughout the District. For more information, students can call the Green Bay Campus at (920) 498-5600 or (800) 422-NWTC, the Marinette Campus at (715) 735-9361, or the Sturgeon Bay Campus at (920) 743-2207, and ask to speak with a counselor.

Before taking General Education courses, students should meet high school exit competencies in English, Mathematics, Science, and Social Science.

WHAT STUDENTS WILLLEARN:
Communication
Based on a program's required Communication courses, an NWTC graduate should be able to do the following:

- Use verbal, nonverbal, and listening skills to improve communication
- Present information before a group
- Prepare job-seeking documents
- Compose business and technical documents using a computer
- Use design techniques to help readers better understand a document
- Follow the rules of standard English grammar, usage, and punctuation

The average reading level of texts is 11.6.

Mathematics
Based on a program's required Math courses, an NWTC graduate should be able to do the following:

- Perform arithmetic operations on whole numbers, fractions, and decimals
- Use percents, ratios, and proportions
- Use geometric formulas, principles, properties, and conversions
- Use trigonometry
- Generate linear, systems of linear, and quadratic equations
- Derive the equations of straight line, circle, parabola, ellipse, and hyperbola
- Use complex numbers
- Use exponential and logarithmic functions
- Relate trigonometric functions as graphs
- Apply probability and statistics
- Apply differential and integral calculus
- Develop algorithms
- Use set theory and logic
- Use binary/hexadecimal number systems
- Use linear programming

The average reading level of texts is 9.6.

Natural Science
Based on a program's required Science courses, an NWTC graduate should be able to do the following:

- Identify chemical pathways relating to cellular metabolism
- Analyze chemical lab measurements
- Define scientific terms relating to chemical processes and nomenclature
- Use both English and metric systems
- Apply stepwise scientific method/problem solving approaches
- Apply the principles of linear and rotational forces with respect to motion
- Apply concepts for various forms of energy: thermal, mechanical, electrical, sound, and light
- Relate work and power to different forms of energy
- Characterize the properties of matter: solids, liquids, and gases
- Explain the anatomy of the body systems
- Explain the physiology of the body systems
- Analyze physiological exercises
- Correlate anatomy and physiology with medical problems
- Work as a laboratory team member
- Explain basic microbiological concepts
- Describe etiology of bacterial, viral, fungal, and parasitic diseases
- Apply methods of control and prevention of infectious diseases
- Apply microbiological knowledge to current and future medical development

The average reading level of texts is 12.1.

Social Science
Based on a program's required Social Science courses, an NWTC graduate should be able to do the following:

- Apply psychological principles to life and work
- Appraise interaction between social influences and individual behavior
- Apply individual and/or team decision-making processes to life and work situations
- Analyze life experiences as they relate to the development of values, ethics, and self-esteem
- Develop sensitivity to issues of diversity
- Apply the cost versus benefits analysis to scarcity issues
- Demonstrate an awareness of global diversity in economic situations
- Evaluate the role of government in an economic system
- Analyze the impact of family on social issues
- Assess the value of participating in the democratic political process
- Evaluate the effect of attitudes about cultures

The average reading level of texts is 12.8.

General Education courses are not eligible for financial aid unless taken with an Associate Degree or Technical Diploma program.

GENERAL EDUCATION
Purpose/Philosophy
The learning outcomes for General Education serve as the core for the various programs offered at the college. The programs are designed to educate for employment. The General Education learning opportunities embrace a philosophy of learning how to:

- communicate effectively,
- state and solve technical problems,
- describe the natural world, and
- interact within society

Mission
General Education at Northeast Wisconsin Technical College provides learning opportunities in Communication, Social Science, Natural Science, and Mathematics for learners seeking lifelong learning for personal development, occupational competence, and community participation.

Vision
General Education offers comprehensive, diverse, flexible, and relevant learning opportunities that educate students to become technically competent, critical-thinking, and problem-solving learners. These individuals will be effective learners, communicators, and team workers sensitive to the changing economic, social, and cultural needs of society.

Descriptions of courses not found on this page can be found in the back of the catalog.

General Studies Certificate

DESCRIPTION OF GENERAL STUDIES CERTIFICATE

The General Studies Certificate is designed for students who would like to take introductory courses before deciding on a technical diploma or associate degree program.

It allows time to develop critical decision making and career selection skills while earning credits that may be applied to a full time NWTC program.

Some credits earned may also be transferable to other technical colleges, the University of Wisconsin System, or private four-year colleges. Check with the college you are interested in transferring to for more information.

PROFILE OF PROSPECTIVE STUDENT
- Interested in further education
- Unsure of career options
- Wanting to develop learning skills

HOW TO REGISTER/APPLY

1. Complete a Wisconsin Technical College System (WTCS) application form available on all technical college campuses and in high school guidance offices or write to the NWTC address below.

2. Send completed application to:
   Northeast Wisconsin Technical College
   Attn: Admissions-General Studies
   P. O. Box 19042
   Green Bay, WI 54307-9042

   Or call (920) 498-6866, or
   (800) 422-NWTC, ext. 6866 for
   more information.

The General Studies Certificate courses are not eligible for financial aid unless taken with an associate degree or technical diploma program.

CURRICULUM

Course No.	Description	Credits
REQUIRED:		
862-110	EXPLORE CAREER OPTIONS	2
890-110	THINKING STRATEGIES	2
890-111	ORIENTATION TO COLLEGE LEARNING	2
	Total Credits	**6**

Select an additional six credits from A-B-C below with a maximum of three credits per category.

CATEGORY A:		
801-195	COMMUNICATION-WRITTEN	3
801-196	COMMUNICATION ORAL/INTERPERSONAL	3
801-198	SPEECH	3
CATEGORY B:		
809-195	ECONOMICS	3
809-196	INTRODUCTION TO SOCIOLOGY	3
809-197	SOCIETY-AMERICAN CONTEMPORARY	3
809-198	INTRODUCTION TO PSYCHOLOGY	3
809-199	PSYCHOLOGYOF HUMAN RELATIONS	3
CATEGORY C:		
804-101	BUSINESS MATH	3
804-120	MATH-TECHNICALALGEBRA	3
804-130	ALGEBRA/TRIGONOMETRY	3
806-150	PHYSICS 1-TECHNICAL	3
806-182	ANATOMY/PHYSIOLOGY 1	3
	Total Credits from A-B-C	**6**

TOTALCREDITS FOR THE GENERALSTUDIES CERTIFICATE = 12 CREDITS

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding of:

862-110 CAREER OPTIONS-EXPLORE
...develop a career plan supported by your interests, abilities, and work values. Learn what skills are necessary for program entry and develop a Personal Learning Plan to reach your career goals.

890-110 THINKING STRATEGIES
...brainstorming and thinking; thinking tools; pattern thinking; cause and effect thinking; testing possibilities; relevance in thinking; and organizing, classifying, and sequencing information.

890-111 COLLEGE LEARNING-ORIENTATION ...lifelong learning, principles of study skills, course expectations, self assessment, support systems, time management, listening and concentration, memorization, reading strategies, notetaking, test preparation, test taking, and overcoming test anxiety.

Descriptions of courses not found on this page can be found in the back of the catalog.

Associate Degree and Technical Diploma Programs
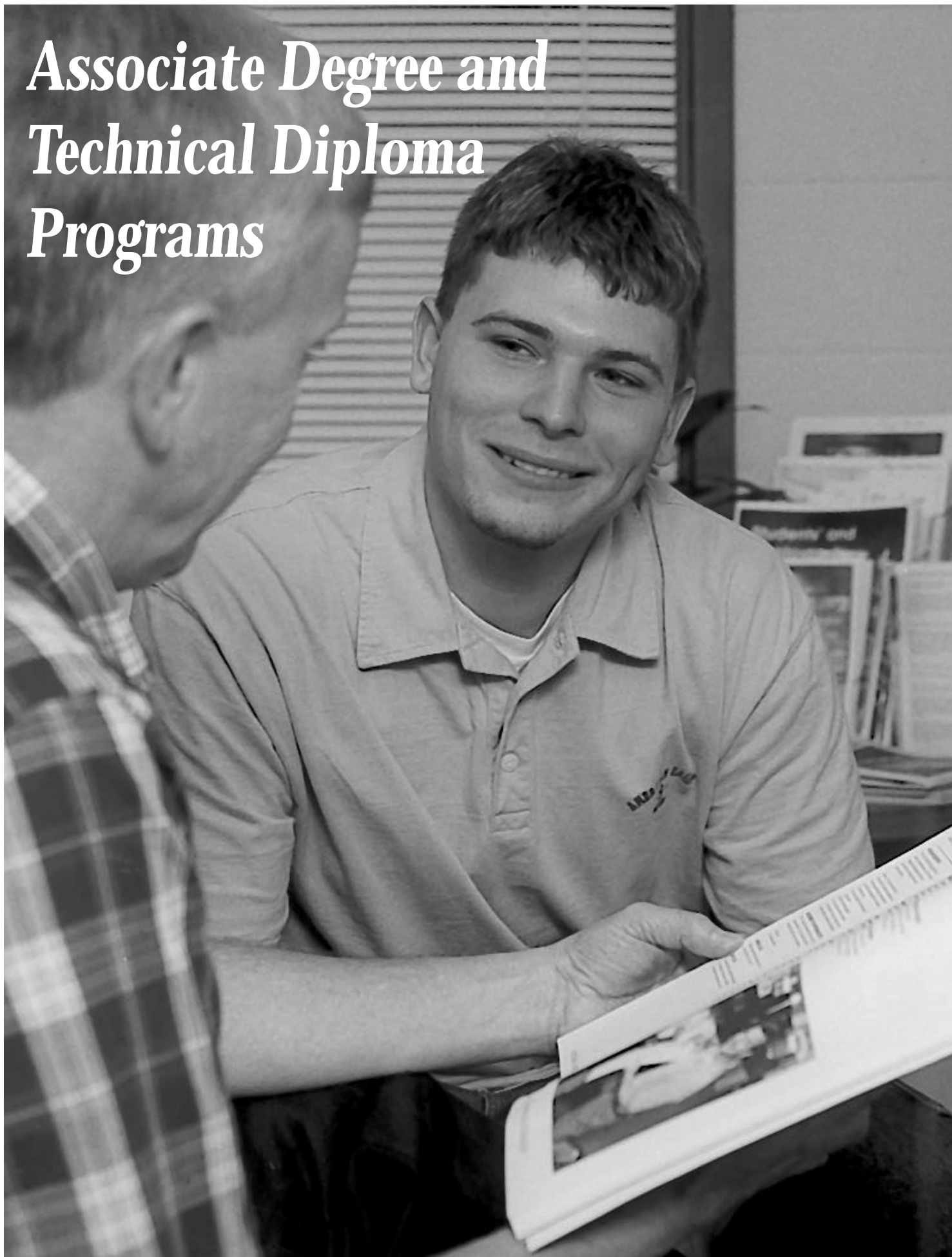
Accounting Program Code 101011

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Accounting prepares students for entry-level positions as accountants. Accountants work with accounting systems, analyze business records, prepare financial reports, and supervise bookkeepers.

Graduates of this program will be able to:
• Manage general ledger.
• Manage accounts receivable.
• Manage accounts payable.
• Maintain inventory control.
• Prepare payroll.
• Prepare income taxes.
• Account for fixed assets.
• Perform job order cost accounting.
• Perform process cost accounting.
• Perform standard cost accounting.
• Analyze financial statements.
• Prepare budgets.
• Manage cash flows.
• Use corporate accounting procedures.
• Analyze accounting information to make appropriate decisions.
• Perform reconciliation procedures.
• Create spreadsheets.
• Perform accounting functions using computerized accounting packages.
• Demonstrate proficiency in math using table top calculator and T.I. Business Analyst.
• Perform activity-based costing.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Basic math (algebra recommended)
• Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Accounts Payable/Receivable Clerk, Bookkeeper/Payroll Clerk, Inventory Control Clerk, Cost Accountant, Public Accountant, Staff Accountant, and Tax Accountant.

ACCOUNTS PAYABLE/RECEIVABLE CLERK: records and pays bills of the company, records receivables transactions, bills customers at regular intervals, records charges and payments.

BOOKKEEPER/PAYROLL CLERK: handles the bookkeeping system of a business including payroll, receivables, payables, and end-of-period reports; handles time cards; computes overtime, deducts taxes, and prepares payroll checks; and reconciles payroll accounts.

INVENTORY CONTROL CLERK: records receipt and dispersal of goods using a perpetual inventory system, assigns costs using an inventory valuation method.

COST ACCOUNTANT: determines cost of products manufactured; determines variations from standards in labor, materials, and overhead; prepares budgets; and prepares various management reports.

PUBLIC ACCOUNTANT: keeps records for small business; prepares payroll records; prepares financial records, income statements, and balance sheets.

STAFF ACCOUNTANT: keeps financial records, prepares financial records (income statements, balance sheets, budgets, and summary reports), and analyzes accounts.

TAX ACCOUNTANT: prepares tax returns for both state and federal governments, assists in tax planning and tax shelters, and files payroll reports and quarterly reports as required by government agencies.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Auditor
• Certified Public Accountant
• Comptroller
• Treasurer
• Trust Officer

CURRICULUM

The Accounting Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 69 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-101-110	Accounting 1	4
10-102-101	Financial Applications	3
10-103-103	Micro Basics MS Office 1	3
10-801-195	Communication-Written	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
10-101-105	Accounting-Computer Ledger	2
10-101-120	Accounting 2	4
10-101-151	Accounting-Payroll	3
10-102-150	Law-Business	3
10-801-196	Oral/Interpers Communication	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**18**

THIRD SEMESTER

Course No.	Description	Credits
10-101-134	Accounting-Cost	4
10-101-139	Accounting 3	3
10-101-154	Accounting-Personal Tax	4
10-104-108	Credit Procedures	3
	Elective	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

Course No.	Description	Credits
10-101-142	Accounting-Managerial	3
10-101-149	Accounting 4	3
10-101-156	Accounting-Auto Appl	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Micro Basics MS Office 2 (10-103-109), Financial Management-Medical (10-101-145), Financial Statement Analysis (10-102-172).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-101-110 ACCOUNTING 1 ...accounting principles, financial statements, business transactions, accounting cycles/systems, specialized journals, accounting for cash, receivables, and temporary investments, inventories, fixed assets, payroll, notes payable, current liabilities, sole proprietorships, and partnerships.

10-101-120 ACCOUNTING 2 ...concepts and principles covering corporations, capital stocks, dividend bonds, amortization of bond premiums, and discounts; manufacturing, job order, process cost systems; variances; managerial application including decision making and financial analysis. (Prerequisite: 10-101-110, Accounting 1)

10-101-134 ACCOUNTING-COST ...contemporary cost environments and issues; selecting, analyzing, and tracking costs; production costing methods: job order, process, standard costs, by-product, and joint costing. Requires experience with Windows, and prior completion of an introductory course in Word, and introductory and intermediate courses in Excel. (Prerequisite: 10-101-120, Accounting 2)

10-101-139 ACCOUNTING 3 ...income statements, balance sheets, cash flow statements, cash and receivables, revenue recognition, inventories and cost of goods sold, and financing activities. (Prerequisite: 10-101-120, Accounting 2)

10-101-142 ACCOUNTING-MANAGERIAL ...cost behavioral patterns, cost-volume-profit relationships, segment reporting, profit planning, budgets and overhead analysis, decentralized operations, pricing decisions, capital investment decisions, and service department costing. (Prerequisite: 10-101-134, Accounting-Cost)

10-101-149 ACCOUNTING 4 ...equity financing, changes in retained earnings, noncurrent operating assets, investments in debt and equity securities, leases, employee compensation, derivatives and contingencies, earnings per share, accounting changes and corrections, statement analysis. (Prerequisite: 10-101-139, Accounting 3)

10-101-151 ACCOUNTING-PAYROLL ...payroll and personnel records, social security, withholding tax, unemployment compensation, time sheets and time-keeping records, and legal aspects of payroll. (Prerequisite: 10-101-110, Accounting 1)

10-101-154 ACCOUNTING-PERSONAL TAX ...history and research of tax law and regulations; preparation of Federal and State of Wisconsin individual income taxes including forms 1040, 1040A, and 1040EZ, and supporting schedules and forms. (Prerequisite: 10-101-110, Accounting 1)

10-101-156 ACCOUNTING-AUTOMATED APPLICATIONS ...Windows commands, file management, worksheet applications, database applications, macros, evaluation of accounting software, installation of software, and conversion of manual accounting system to a computerized system. Requires experience with Windows, and prior completion of an introductory course in Word, and introductory and intermediate courses in Excel. (Prerequisite: 10-101-120, Accounting 2)

10-103-103 MICRO BASICS MS OFFICE 1 ...introductory computer software packages and applications, basics of operating a computer, Windows concepts, mouse techniques, word processing using Word, creating spreadsheets and charts using Excel.

Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN ⬤29 TECHNICAL COLLEGE

Accounting Assistant Program Code 311011

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361.

Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Accounting Assistant prepares students to perform bookkeeping functions in business offices. Accounting Assistants may be responsible for payroll, accounts payable/receivable, purchase orders, inventory control records, or sales records.

Graduates of this program will be able to:
- Manage the general ledger.
- Manage accounts receivable.
- Manage accounts payable.
- Prepare payroll.
- Account for fixed assets.
- Manage cash flow.
- Analyze financial statements.
- Maintain inventory control.
- Create electronic spreadsheets.
- Perform accounting functions using computerized accounting packages.
- Demonstrate proficiency in math using a table top calculator.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Accounts Payable/Receivable Clerk, Billing Clerk, Bookkeeper/Payroll Clerk, Inventory Control Clerk, or Office Assistant.

ACCOUNTS PAYABLE/RECEIVABLE CLERK: records and pays bills of the company, records receivables transactions, bills customers at regular intervals, and records charges and payments.

BILLING CLERK: prepares vouchers for payment of invoices, checks extensions, deducts discounts, charges payments to proper accounts, and prepares checks in payment of vouchers.

BOOKKEEPER/PAYROLL CLERK: handles the bookkeeping system of a business including payroll, receivables, payables, and end-of-period reports; handles time cards; computes overtime; deducts taxes; prepares payroll checks; and reconciles payroll accounts.

INVENTORY CONTROL CLERK: maintains a perpetual inventory system for the purchasing department, records price changes in product catalogs, schedules material ordering, and charges out material to various departments of the business.

OFFICE ASSISTANT: performs a variety of duties related to bookkeeping, keyboarding applications, filing, record keeping, customer relations, telephoning, and general correspondence.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Accountant
- Bookkeeping Supervisor
- Office Manager

CURRICULUM

The Accounting Assistant Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-103	Micro Basics MS Office 1	3
10-106-105	Keyboard Skillbuilding 1	2
10-106-152	Records Management	2
10-106-153	Professional Profile	3
10-804-101	Math-Business	3
31-101-311	Bookkeeping 1-Applied	3
31-801-387	Grammar-Business Appl	1
	SEMESTER TOTAL	**17**

SECOND SEMESTER

Course No.	Description	Credits
10-101-105	Accounting-Computer Ledger	2
10-106-156	Keyboard Skillbuilding 2	2
10-809-195	Economics	3
31-101-321	Bookkeeping 2-Applied	3
31-101-361	Accounting-Voc Payroll	2
31-104-350	Retail Credit	2
31-801-385	Communicating-Writing	1
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-101-105 ACCOUNTING-COMPUTER LEDGER ...applications on calculators and microcomputers using Microsoft Excel such as addition, subtraction, multiplication, division, percent, memory, and business problems. Requires experience with Windows, and prior completion of an introductory course in Word, and introductory and intermediate courses in Excel.

10-103-103 MICRO BASICS MS OFFICE 1 ...introductory computer software packages and applications, basics of operating a computer, Windows concepts, mouse techniques, word processing using Word, creating spreadsheets and charts using Excel.

10-106-105 KEYBOARD SKILLBUILDING 1 ...skill development on the alphabetic keyboard (minimum—35 words per minute) and on the ten-key pad (minimum—195 numbers per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to touch keyboard at 20 WPM.

10-106-152 RECORDS MANAGEMENT ...organization and management of records departments, equipment; and major systems of classification: alphabetic, numeric, geographic, subject, chronologic, and micro systems.

10-106-156 KEYBOARD SKILLBUILDING 2 ...skill development on the alphabetic keyboard (minimum—45 words per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to keyboard at 35 WPM .

10-804-101 MATH-BUSINESS ...percentage, interest, promissory notes, borrowing, credit charges, payroll records and deductions, property tax, sales tax, inventory valuation, depreciation, mark-up, cash and trade discounts, stocks and bonds, and financial statement analysis.

31-101-311 BOOKKEEPING 1-APPLIED ...analyzing business transactions; journalizing, posting, and the end-of-period operations; payroll procedures; and subsidiary ledgers and control accounts.

31-101-321 BOOKKEEPING 2-APPLIED ...partnership accounting, internal control of assets, negotiable instruments, valuation of inventory, valuation of fixed assets, departmental procedures, accrual basis of accounting, corporate accounting, branch operations, and voucher system. (Prerequisite: 31-101-311, Bookkeeping 1-Applied)

31-101-361 ACCOUNTING-VOCATIONAL PAYROLL ...payroll records, Fair Labor Standards Act, wage computation, federal and state tax, and time-keeping records.

31-104-350 RETAIL CREDIT ...introduction to credit, income tax, consumer credit grantors, budgeting, credit plans, accounts receivables, credit reporting agencies, credit decisions, home purchasing, credit laws, and collections.

Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN **31** TECHNICAL COLLEGE

Administrative Assistant Program Code 101066

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Administrative Assistant prepares students to be efficient and effective office employees through application of office procedures (proofreading, telephone, records management, meeting and travel arrangements, project management, Internet research, etc.) and software skills (word processing, desktop publishing, spreadsheet, presentation graphics, electronic calendaring, and database). All software materials prepare students to sit for the Microsoft Office User Specialist (MOUS) exams.

Graduates of this program will be able to:
- Provide customer service.
- Manage information.
- Maintain financial records.
- Create publications/presentations.
- Maintain equipment.
- Arrange travel.
- Process documents.
- Coordinate meeting activities.
- Process mail.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Keyboarding skill of 20 wpm using the TOUCH method

READING LEVEL

Textbook readability within this program has an average reading level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Administrative Assistant, Legal Administrative Assistant, Medical Administrative Assistant, Office Assistant, Receptionist/Administrative Assistant, Transcriptionist, or Word Processor.

ADMINISTRATIVE ASSISTANT: schedules appointments; communicates effectively in person, on the phone, and in writing; transcribes dictation from notes or machines; prepares agendas; takes minutes; arranges itineraries; schedules travel plans; handles mail; uses word processing, spreadsheet, presentation graphics, and/or database software; and possibly supervises others.

LEGAL ADMINISTRATIVE ASSISTANT: performs all duties of an administrative assistant in a legal office specializing in legal formats, terminology, and procedures.

MEDICAL ADMINISTRATIVE ASSISTANT: performs all duties of an administrative assistant in a medical facility specializing in medical procedures and terminology.

OFFICE ASSISTANT: types, files, transcribes, does word processing, works with the telephone, makes appointments, keeps records, sets up meetings, and handles customer relations.

RECEPTIONIST/ADMINISTRATIVE ASSISTANT: receives and routes telephone calls, greets visitors, handles filing, mail, photocopying, and faxing; may provide administrative support at various levels within the organization.

TRANSCRIPTIONIST: uses transcribing machines and word processing equipment, proofreads, and verifies documents.

WORD PROCESSOR: works in a specialized department of a company producing all forms of documents for the firm; edits, revises, proofreads; and types with speed and accuracy using word processing software.

With additional education and/or work experience, a graduate may find employment in a variety of specialities.
- Certified Professional Secretary (CPS)
- Executive Assistant/Secretary
- Office Manager
- Records Analyst
- Instructor/Trainer
- Event Coordinator
- Team Leader

CURRICULUM

The Administrative Assistant Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-151	Micro: Powerpoint-Intro	1
10-106-103	Info Process Principles	3
10-106-105	Keyboard Skillbuilding 1	2
	OR	
10-106-107	Keyboarding-Speed/Accuracy	1
	AND	
10-106-110	Microcomputer-10 Key Pad	1
10-106-131	Transcription Fund 1	3
10-106-138	Software Skills 1	3
	OR	
10-103-111	Micro: Windows-Introduction	1
	AND	
10-103-121	Micro: Word-Introduction	1
	AND	
10-103-122	Micro: Word-Part 2	1
10-106-153	Professional Profile	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	18

SECOND SEMESTER

10-106-126	Admin Office Procedures 1	2
10-106-132	Transcription Fund 2	2
10-106-139	Software Skills 2	2
	OR	
10-103-131	Micro: Excel-Introduction	1
	AND	
10-103-132	Micro: Excel-Part 2	1
10-106-142	Software Projects	3
10-106-152	Records Management	2
10-106-156	Keyboard Skillbuilding 2	2
	OR	
10-106-111	Keyboard Skill Development	2
10-106-172	Telephone Skills	1
10-801-195	Communication-Written	3
	SEMESTER TOTAL	17

THIRD SEMESTER

10-101-101	Accounting Principles	3
10-106-136	Admin Office Procedures 2	3
10-106-140	Software Skills 3	3
	OR	
10-103-123	Micro: Word-Part 3	1
	AND	
10-103-141	Micro: Access-Intro	1
	AND	
10-103-142	Micro: Access-Part 2	1
10-809-197	Society-Amer Contemp	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	18

FOURTH SEMESTER

10-106-144	Administrative Asst Intern	3
10-106-161	Integrated Projects	3
10-801-197	Reporting-Technical	3
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	15

SUGGESTED ELECTIVES: Office Politics (10-106-157), Meetings-Organizing (10-106-171), WorkSkills (10-196-102).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-103-111 MICRO: WINDOWS-INTRODUCTION ...Windows management (minimize/maximize/close/resize), document management (create, open, save, find file), help features, shortcuts, My Computer, and Explorer (format, folders/subfolders, move/copy/delete files).

10-103-121 MICRO: WORD-INTRODUCTION ...word processing basics using Microsoft Word 2000 including creating, revising, formatting, and printing; sections, tabs, multiple-page numbering; manipulating text; and creating headers and footers. Requires Windows experience.

10-103-122 MICRO: WORD-PART 2 ...advanced word processing features of Microsoft Word 2000 including merge, columns, tables, templates, styles, borders and clip art, Microsoft draw and WordArt, footnotes and endnotes, and creating a Web page. Requires strong introductory Word skills.

10-103-123 MICRO: WORD-PART 3 ...Word 2000 hyphenation, charts, macros, styles, sort/select, outlines, fill-in forms, table of contents, and index. Requires intermediate Word skills.

10-103-131 MICRO: EXCEL-INTRODUCTION ...spreadsheet basics using Microsoft Excel 2000: creating/printing worksheets; formulas, functions, copy/move cells, manipulate rows/columns, generate charts. Requires Windows experience.

10-103-132 MICRO: EXCEL-PART 2 ...functions of VLOOKUP and IF, date/time functions, templates, multiple worksheets, linking files through formulas, consolidating worksheets, charts and graphs, datamaps, databases, filters, data tables, and pivot tables. Requires strong introductory Excel skills.

10-103-141 MICRO: ACCESS-INTRODUCTION ...database tables, relationships, queries, calculations, aggregate functions, form and report wizards, and compacting. Requires Windows experience.

10-103-142 MICRO: ACCESS-PART 2 ...lookup wizards, parameter queries, custom forms, multi-page forms with tab controls, filters, custom reports with grouping and calculations, embedding charts, and hyperlinks. Requires strong introductory Access skills.

10-103-151 MICRO: POWERPOINT-INTRODUCTION ..data access pages using the Web, prepare overheads, handouts, and slide shows using Wizards, templates, Clipart, WordArt, animation, transitions, and hyperlinks. Requires Windows experience.

10-106-103 INFORMATION PROCESSING PRINCIPLES ...information processing cycle and workflow, terminology, hardware, software, ergonomics, security, systems, Internet, and career opportunities.

10-106-105 KEYBOARD SKILLBUILDING 1 ...skill development on the alphabetic keyboard (minimum—35 words per minute) and on the ten-key pad (minimum—195 numbers per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to touch keyboard at 20 WPM.

10-106-107 KEYBOARDING-SPEED/ACCURACY ...improving speed and accuracy on the alpha keyboard to a minimum of 35 words per minute using diagnostic software in a self-paced environment. Requires ability to touch keyboard at 20 WPM.

10-106-110 MICROCOMPUTER-10 KEY PAD ...correct finger placement, technique, and skill development on the ten-key pad using a computer keyboard developing speed (minimum—195 numbers per minute) using analytic/diagnostic software in a self-paced environment.

10-106-111 KEYBOARD SKILL DEVELOPMENT ...skill development on the alphabetic keyboard to a minimum of 45 words per minute using analytic/diagnostic software in a self-paced environment.

10-106-126 ADMINISTRATIVE OFFICE PROCEDURES 1 ...today's global business environment, including decision making, working as a team member, time management systems, virtual office, intro to meetings, reprographics, processing mail, electronic mail, and machine transcription. Requires experience with Windows, and prior completion of an introductory and intermediate courses in Word.

10-106-136 ADMINISTRATIVE OFFICE PROCEDURES 2 ...today's global business environment including ethics, information research, presentation skills, travel/conference planning, financial responsibilities, employment and advancement, leadership and management, and machine dictation and transcription.

10-106-138 SOFTWARE SKILLS 1 ...the Windows operating system and Word 2000 including creating, revising, printing, headers/footers, sections, tables, templates, columns, styles, merging, draw and WordArt, and creating a Web page. Requires ability to touch keyboard at 20 WPM.

10-106-139 SOFTWARE SKILLS 2 ...basic and advanced spreadsheet concepts using Excel 2000: creating/printing worksheets, formulas, functions, working with multiple worksheets, linking files, charts/graphs, data lists, analysis tools.

10-106-140 SOFTWARE SKILLS 3 ...Access 2000 tables, relationships, queries, calculations, aggregate functions, forms and reports, lookups, tab controls, hyperlinks, and data access pages. Word 2000 macros, styles, outlines, forms, table of contents and index. Requires experience with Windows, and prior completion of an introductory and intermediate courses in Word.

10-106-142 SOFTWARE PROJECTS ...applying Windows 95 and Word 2000 features to manage and format business documents while exercising decision-making skills and enhancing keyboarding skills in a team setting. Requires experience with Windows, and prior completion of an introductory and intermediate courses in Word.

10-106-144 ADMINISTRATIVE ASSISTANT INTERNSHIP ...structured employment with the supervision of a business employer and coordinating instructor; 144 hours of work and 17 hours of class, projects, reports, and discussions relate to student employment. Course should be taken during the last semester.

10-106-152 RECORDS MANAGEMENT ...organization and management of records departments, equipment; and major systems of classification: alphabetic, numeric, geographic, subject, chronologic, and micro systems.

10-106-153 PROFESSIONALPROFILE ...workplace attributes such as attitude, goal setting, habits, and techniques for success and promotion; leadership and organizational skills; and diversity in the workplace.

10-106-156 KEYBOARD SKILLBUILDING 2 ...skill development on the alphabetic keyboard (minimum—45 words per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to keyboard at 35 WPM .

10-106-161 INTEGRATED PROJECTS ...create documents using desktop publishing features of Word, import/export data in Word, Excel, PowerPoint, and Access, create Web pages, and apply software skills to office-oriented projects. Course should be taken during the last semester after completion of all Windows, Word, Excel, Access, and Powerpoint courses.

10-106-172 TELEPHONE SKILLS ...using the telephone effectively and efficiently in the world of work; telephone features, equipment, messaging, cellular technology, pagers, electronic, and voice mail.

Descriptions of courses not found on this page can be found in the back of the catalog.

Advanced Auto Body Repair Program Code 304052

TECHNICAL DIPLOMA - ONE SEMESTER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION
Advanced Auto Body Repair develops advanced skills in uni-body repair, painting, and mechanical systems repair required to return collision damaged uni-body vehicles to like-new condition.

Graduates of the Advanced Auto Body Repair will be able to:
• Diagnose major unibody damage.
• Refinish two and three stage paint systems.
• Repair advanced vehicle electronic systems.
• Repair advanced vehicle mechanical systems.
• Repair major unibody damage.

REQUIREMENTS FOR PROGRAM ENTRY
NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Be employed as an auto collision technician or be a graduate of the one-year Auto Collision Repair and Refinish Technician program

READING LEVEL
Textbook readability within this program has an average level of 12th grade.

MATH LEVEL
Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL
A graduate of this program will have the potential for employment as an Auto Collision Repair Technician, Frame and Alignment Specialist, Uni-Body Repair Specialist, and Painting Technician.

AUTO COLLISION REPAIR TECHNICIAN: repairs damaged bodies of cars and light trucks; works with all body parts and sections; removes damaged panels and welds in new ones; removes and replaces accessories, glass, electrical parts, and interior trim; repairs or replaces plastic or composite parts; and straightens dents in sheet metal panels to restore the vehicle to pre-accident condition.

FRAME AND ALIGNMENT SPECIALIST: straightens, welds, replaces, and aligns all types of frames and suspensions of cars and trucks to within factory specifications.

UNI-BODYREPAIR SPECIALIST: repairs unitized vehicles by analyzing, measuring, and pulling the unibody structure to the proper dimensions; and replaces structural parts that are not repairable using proper structural parts sectioning techniques to return the vehicle to factory specifications.

PAINTING TECHNICIAN: completes the refinishing phase of all repairs on cars, trucks, and fleet vehicles; does all stages of priming, sanding, and sealing prior to the paint application; determines the type and color of paint to do the refinishing; is familiar with mixing, tinting, and shading as well as the application of color for matching; and buffs, polishes, cleans, and stripes vehicle to complete the repair job.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Insurance Adjuster and Appraiser
• Equipment and Supplies Specialist
• Supervisor/Manager/Shop Owner

CURRICULUM
The Advanced Auto Body Repair Program is a summer, one-semester program. Upon graduation a student will have completed 6 credits.

FIRST SEMESTER

Course No.	Description	Credits
30-404-372	Auto Repair-Adv	1
30-405-370	Auto Body-Unibody Rep Adv	4
30-405-371	Auto Body-Paint Match Adv	1
	SEMESTER TOTAL	**6**

ACCREDITATION: Certified as ASE training site and to use ASE Seal of Excellence by the National Institute for Automotive Service Excellence.

The program is not eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-404-372 AUTO TECH-UNIBODY REPAIR ADVANCED ...front and rear suspension repair; alignment; correction of roadability and handling problems; service, diagnosis, and repair of air conditioners; and engine no-start condition solutions.

30-405-370 AUTO BODY-UNIBODY REPAIR ADVANCED ...history of automobile damage repair, uni-body construction, damage diagnosis, measuring systems, straightening systems, structural panels, high strength steel, sectioning/use of recycled parts, collision repair evaluation.

30-405-371 AUTO BODY-PAINT MATCH ADVANCED ...blending and tinting; analysis of color match problems; color mismatch; solving color match problems; adjusting color, tinting, cast, and brightness; water borne; low VOC; and tri-coat finishes.

Descriptions of courses not found on this page can be found in the back of the catalog.

Agribusiness/Science Technology Program Code 100062

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Agribusiness/Science Technology offers learner-centered, specialized skills training in the general areas of livestock production and agronomics to meet the increasing technological employment needs of the agriculture industry.

Graduates of the Agribusiness/Science Technology Program will be able to:

- Identify crop seeds, weed seeds, and plant insects and diseases.
- Assemble, install, and adjust agricultural material handling equipment.
- Adjust and maintain tillage, planting, cultivating, and harvesting equipment.
- Use profitable and environmentally sound practices employed in livestock enterprises.
- Employ product knowledge and people skills necessary to successfully complete a sale.
- Determine how reproductive management affects genetic progress, animal health, and enterprise profitability.
- Produce documents using correct spelling, sentence structure, paragraphing, and punctuation.
- Employ marketing strategies in agricultural business ventures.
- Integrate principles of finance, including those specifically related to agriculture, into profitable agriculture.
- Distinguish among biological systems of various farm animal species and genetic, metabolic, and communicable disorders.
- Demonstrate approved management practices used to profitably select, cultivate, and harvest agricultural crops.
- Incorporate the principles of basic economics into agriculturally related practices.
- Use proper language to discuss, debate, defend, support, and present information.
- Compute profitability of nutritional needs of various farm animal species on the basis of growth, maintenance, and production.
- Calculate needs for plant growth and maintenance.
- Interpret the relationships of chemical elements to the biological and physical functions of plants and animals.
- Compute mathematical functions related to agricultural tasks.
- Identify similarities and differences of various physical systems of farm production species and associated management practices.
- Demonstrate sufficient typing skills to effectively operate word processing and computer equipment.
- Utilize information related to physical properties of soils in analyzing problems and maintaining the resources.
- Use extensive information sources to investigate a particular program-related topic or issue.
- Apply skills in a work setting under professional supervision.
- Explore the opportunities in agribusiness and develop skills necessary to obtain employment.
- Identify plant parts and functions in relationship to germination, growth, development, and reproduction.
- Relate to historical and anticipated societal changes that may impact the agricultural industry.
- Demonstrate problem solving techniques and decision making skills.

EMPLOYMENT POTENTIAL

The Agribusiness/Science Technology Program will prepare a student for employment as a Livestock Production Specialist and/or Crop Production Specialist.

LIVESTOCK PRODUCTION SPECIALIST (LPS): applies business principles, participates in marketing plans, generates sales of products and services, communicates information about basic animal husbandry, evaluates livestock, evaluates facilities, evaluates management practices, develops rations, applies feeding principles, and keeps current about livestock and feeding practices.

CROPPRODUCTION SPECIALIST (CPS): generates sales of products and services, provides information about cropping technology, assesses soil conditions, develops crop plans, processes customer orders, applies crop requirements, scouts crops, resolves customer complaints, and keeps up-to-date on new ideas and products in both agronomy and seed.

With additional education and/or work experience, graduates may find other opportunities for employment.
- District Sales Representative
- Livestock Nutritionist
- Agronomist

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic high school math (algebra helpful)
- Ability to use computer keyboard
- Science (general understanding of basic plant and animal biology, chemistry, and physics)

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills and algebra. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM

The Agribusiness/Science Technology Associate Degree is a two-year, four-semester program. Upon graduation a student will have completed 67 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-006-103	Agri-Business Career Dev	2
10-006-114	Plant Morphology/Physiology	2
10-006-115	Soils-Intro	2
10-080-123	Science-Animal	2
10-106-145	Keyboarding	1
10-804-120	Math-Tech Algebra	3
10-806-155	Chemistry-Basic	4
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
10-006-121	Plant Fertility	2
10-080-133	Nutrition-Animal	4
10-103-103	Micro Basics MS Office 1	3
10-801-196	Oral/Interpers Communication	3
10-809-195	Economics	3
	Elective	2
	SEMESTER TOTAL	**17**

THIRD SEMESTER

Course No.	Description	Credits
10-080-103	Crop/Chemical-Agronomic	3
10-080-143	Anatomy/Diseases	3
10-102-138	Financing-Agriculture	3
10-104-110	Marketing Principles	3
10-801-195	Communication-Written	3
	Elective	2
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

Course No.	Description	Credits
10-006-102	Agri-Business Internship OR	3
10-006-104	Agri-Business Field Study	3
10-080-145	Reproduction-Bio Tech	3
10-104-101	Selling Principles	3
10-809-197	Society-Amer Contemp	3
10-809-199	Psychology-Human Rel	3
	Elective	2
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES: Dairy Herd Management (10-080-157), Farm Machinery-Crop Related (10-080-151), Farm Mechanization/Material Handling (10-080-153), Environment Science (10-506-120), and Agribusiness Sales and Marketing (10-006-101).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-006-102 AGRI-BUSINESS INTERNSHIP ...student focused professional development based on problem solving, technical development, project assignments, and occupational accountability through measurable work place outcomes.

10-006-103 AGRI-BUSINESS CAREER DEVELOPMENT ...exploring job opportunities, job skills assessment, personal resume preparation, interviewing techniques, business organization and structure, and professional organizations and growth.

10-006-104 AGRI-BUSINESS FIELD STUDY ...specific instructor assigned projects that utilize resources in the workplace, and cooperative learning in industry settings.

10-006-114 PLANT MORPHOLOGY/PHYSIOLOGY ...plant classification, cell components and functions, plant parts and functions, germination, emergence, growth, development, and reproductive processes.

10-006-115 SOILS-INTRODUCTION ...fundamental knowledge of soils including soil formation and development, soil components, soil profile, soil classification, and soil conservation.

10-006-121 PLANT FERTILITY ...essential plant nutrients, nutrient uptake/function, sampling/testing methods, test interpretation, nutrient sources, nutrient management planning, environmental impact, and personal safety.

10-080-103 CROP/CHEMICAL-AGRONOMIC ...forage and row crop management practices, pest ID management and control recommendations, crop variety, soil fertility, plant protection product recommendations, pesticide use and safety.

10-080-123 SCIENCE-ANIMAL ...animal products, anatomy/physiology, welfare/environments, behavior, safety, health/nutrition, genetics/reproduction, and careers.

10-080-133 NUTRITION-ANIMAL ...practical applications of nutrition principles to livestock feeding, characteristics of feeds, practice in compounding rations, and studies of their relative economy in the management of herds and flocks.

10-080-143 ANATOMY/DISEASES ...physiology and anatomy of farm animals and their diseases and parasites including prevention, treatment, and control.

10-080-145 REPRODUCTION-BIO TECHNOLOGY ...anatomy, physiology, and endocrinology of animal reproduction; selecting for genetic traits; measurements and data; artificial insemination; embryo transfer; genetic engineering; biotechnology applied in animal science; and factors that influence reproduction.

10-102-138 FINANCING-AGRICULTURE ...structural characteristics of agriculture finance, financial statements, financial analysis, credit needs, lending policy, financial legal instruments, time value of money, and other issues related to agricultural finance.

10-104-101 SELLING PRINCIPLES ...selling as a career; success factors in selling; personality development; product knowledge; and the sales process involving preparation, approach, presentation-demonstration, handling objections, and closing the sale successfully.

10-104-110 MARKETING PRINCIPLES ...marketing management, market segmentation, market research, consumer behavior, product decisions and management, distribution, pricing, promotional decisions, and international marketing strategy planning.

Descriptions of courses not found on this page can be found in the back of the catalog.

Apprenticeship

OFFERED AT THE GREEN BAY, MARINETTE AND STURGEON BAY CAMPUSES

Admissions and career counseling: (920) 498-5733. Course information: Green Bay (920) 498-5461, Marinette campus (715) 735-9361, or Sturgeon Bay campus (920) 743-2207. Toll free: (800) 422-NWTC.

WHAT IS APPRENTICESHIP?

It is an earn-while-you-learn program of on-the-job training combined with related classroom instruction that is normally provided by the district technical college.

As an apprentice, students are trained under a written training agreement called an indenture. While indentured, the employer agrees to teach the student the skills of the trade and the apprentice agrees to learn the skills involved. Other conditions of the indenture, such as the length of training, amount of pay, the rate of periodic pay increases, and the related classroom hours are covered. An apprenticeship is one of the best ways to enter a skilled occupation.

WHAT IS INVOLVED?

An indentured apprentice works a regular workweek, is paid apprentice wages, and also attends school on a regularly scheduled basis. The apprentice's progress in both the on-the-job training and classroom instruction is evaluated and appropriate records are maintained.

There is no discrimination in any phase of apprenticeship employment and training.

Upon completion of the training program, apprentices will receive a certificate and pocket card from the state of Wisconsin certifying each one as a completed apprentice. To protect the interests of all parties concerned and to assist in the enforcement of the various aspects of the agreement, the Wisconsin Department of Workforce Development, Bureau of Apprenticeship Standards, is given the responsibility of overall supervision of the apprenticeship program.

WHAT ARE THE QUALIFICATIONS FOR AN APPLICANT?

The basic requirement is that the applicant be at least 16 years of age. In most cases, however, the applicant is also required to be a high school graduate or to have passed the high school equivalency test.

Most employers and/or joint apprenticeship committees have approved selection standards with more exacting requirements. In some trades, the requirements for the applicant include one or two years of high school math. Some trades require that the applicant take an aptitude test.

HOW LONG DOES IT TAKE?

The length of the apprenticeship depends upon the skilled occupation involved. Apprentice programs vary from two to five years. The average program is four years in length.

WHAT RELATED CLASSROOM INSTRUCTION IS INVOLVED?

The number of classroom hours range from 288 hours to 1,008 hours of paid related instruction, depending upon the skilled occupation, with the average being 400 hours. This related instruction teaches the apprentice the theory behind the skills learned on the job. Apprentices may be required to attend night school on their own time and at their own expense.

WHERE IS THE RELATED TRAINING OFFERED?

The Clayton J. Smits Apprenticeship Center of Northeast Wisconsin Technical College offers related classroom instruction at the Green Bay, Marinette, and Sturgeon Bay campuses.

WHAT IS AN APPRENTICEABLE OCCUPATION?

An apprenticeable occupation is clearly identified and commonly recognized throughout an industry. It involves manual, mechanical, or technical skills and knowledge that require a minimum of 2000 hours of on-the-job work experience. It also requires an average of 400 hours of related classroom instruction to supplement the on-the-job training. The state of Wisconsin has recognized more than 300 apprenticeable occupations. Some of the occupations served by the Clayton J. Smits Apprenticeship Center of NWTC are:

Adjuster/Finisher
Cabinetmaker
Carpenter
Electrician
    Construction Electrician
    Industrial Electrician
    Residential Electrician
Electrical/Instrumentation
Foundry
Instrumentation
Iron Worker
Line Repairer
Machinist
    Regular Machinist
    Maintenance Machinist
    Tool & Die
Machine Repair
Mason
    Bricklayer
    Block Layer
    Cement Finisher
    Plasterer
    Tile Setter
Mechanical Adjuster
Maintenance Mechanic (Millwright)
Construction Maintenance Mechanic
Industrial Maintenance Mechanic
Pipefitter
    Industrial Pipefitter
Plumber
Resilient Floor
Sheet Metal
Steamfitter

HOW DO I START?

Start by learning what you can about the skilled occupation in which you are interested. Talk to people who are in the occupation, both employers and employees, counselors at your high school, or the local technical college, employers' associations, and labor unions. Remember, looking for an apprenticeship is like looking for a job. Applications should be made directly with employers or joint apprenticeship committees.

If you are entering an occupation that involves action by a joint apprenticeship committee, it will be necessary for you to go through their selection and interview procedures. Very often a committee may maintain a waiting list of qualified applicants who passed the committee's selection procedures.

WHAT IS AN APPRENTICESHIPEMPLOYER?

An employer must be an individual, a joint apprenticeship committee, an owner of a business, a company, or a corporation who can teach the skills involved in the occupation. All sponsors of indentured apprentices are equal opportunity employers.

WHAT ARE APPRENTICE WAGES?

Wages in the various skilled occupations and localities vary; most apprentices start at approximately 50% of the current skilled rate.

The apprentice is on a progressive wage scale with increases every six months, so that during the program the apprentice will average 60% of the skilled rate.

HOW DO I GET MORE INFORMATION?

For more information about a specific skilled occupation, contact:

Bureau of Apprenticeship Standards
        2740 W. Mason Street
        P.O. Box 19042
        Green Bay, WI 54307-9042
        (920) 492-5618

Apprenticeship Coordinator,
Trades & Technical Division
        Northeast Wisconsin Technical College
        2740 W. Mason Street
        P.O. Box 19042
        Green Bay, WI 54307-9042
        (920) 498-5704
        (800) 422-NWTC, Ext. 5704
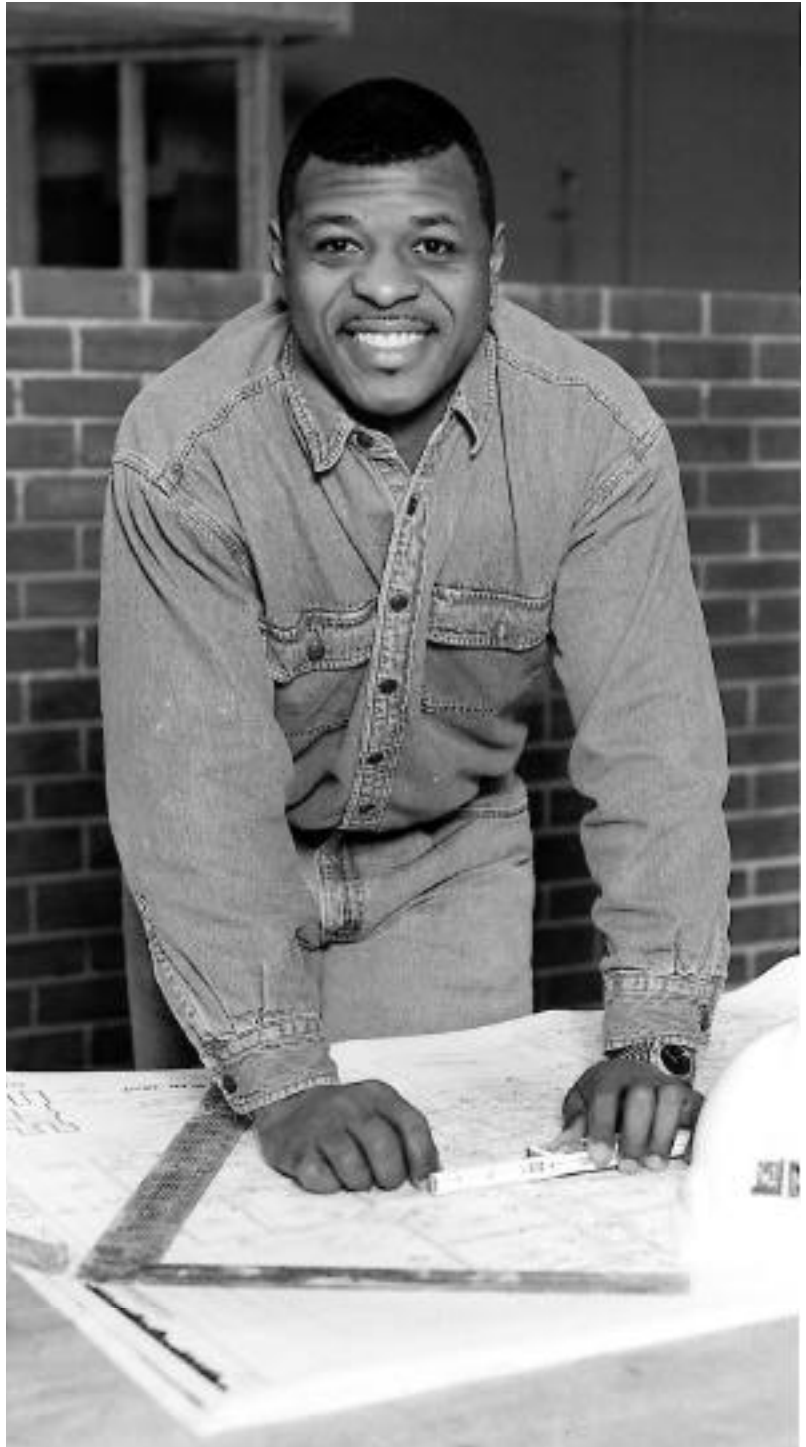
Descriptions of courses not found on this page can be found in the back of the catalog.

Architectural Technology

Program Code 106141

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Architectural Technology prepares students to work for architects, engineers, or material manufacturers to produce drawings for wood, steel, masonry, and rein- forced concrete structures.

Graduates of the Architectural Technology Program will be able to:
- Develop architectural working drawings for commercial buildings using steel, concrete, and masonry.
- Develop residential working drawings to meet code and client standards.
- Perform technical designs/calculations and produce drawings for electrical, plumbing, and heating/ventilating systems for
- Produce drawings and details for structural wood, steel, and concrete members and connections.
- Explain the design and construction process.
- Solve problems creatively and critically.
- Communicate architectural facts and ideas orally and in writing.
- Communicate graphic architectural ideas utilizing sketching techniques.
- Produce group projects.
- Exercise a proper work ethic.
- Display a positive attitude toward their profession.
- Apply codes, manufacturers' standards, tables, and technical manuals in design and drafting of a structure.
- Apply mathematical principles and formulas and explain structural load tables as applied to building construction.
- Coordinate building specifications with working drawings.
- Choose appropriate materials for use in building construction.
- Estimate the materials required to construct a residential building.
- Operate computer drafting equipment, hardware and software, to produce architectural working drawings.
- Operate board drafting equipment.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Those who do not complete high school may establish their equivalency through GED testing or other entrance tests.)
- High school background in mathematics, science, and industrial education and/or construction related experience
- High school algebra or equivalent

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Architectural Technician, Building Materials Sales Person, Building Mechanical Technician, Shop Drawing Draftsperson, Structural Draftsperson, Residential Designer, as well as many other construction related positions.

ARCHITECTURALTECHNICIAN: works under the direction and supervision of an architect or professional engineer preparing working drawings on a conventional or CAD system for residential, commercial, industrial, or similar buildings.

BUILDING MATERIALS SALES PERSON: works in retail sales of building products in a building materials center or similar establishment.

BUILDING MECHANICAL TECHNICIAN: works under the direction and supervision of an architect or professional engineer preparing working drawings on a conventional drafting or CAD system for heating, plumbing, and electrical systems within a building.

SHOP DRAWING DRAFTPERSON: works under the supervision of a professional engineer, developing fabrication and erection drawings for components used in construction.

STRUCTURALDRAFTSPERSON: works under the direction and supervision of an architect or fabricator/professional engineer preparing working drawings on a conventional drafting or CAD system for steel, concrete, and wood building systems.

RESIDENTIALDESIGNER: works independently designing and drafting homes for building materials centers or residential contractors.

With additional education and/or work experience, a graduate may find other opportunities for employment.
- Architect
- Building Inspector
- Chief Draftsperson
- Commercial or Industrial Estimator
- Construction Engineer
- Structural Engineer

CURRICULUM

The Architectural Technology Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-614-115	Architectural Drafting Prin	4
10-614-116	Architectural Computer Appl	2
10-614-121	Materials-Building Const	3
10-801-196	Oral/Interpers Communication	3
10-804-130	Algebra/Trigonometry	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**18**

SECOND SEMESTER

10-614-120	CAD-Architectural	2
10-614-125	Residential Design/Drafting	4
10-614-131	Structural Draft-Wood/Steel	3
10-614-151	Estimating-Building	3
10-804-131	Algebra-Inter	3
10-806-150	Physics 1-Technical	3
	SEMESTER TOTAL	**18**

THIRD SEMESTER

10-614-135	Commercial Draft-Steel	4
10-614-141	Structural Draft-Concret	3
10-614-160	Structural Analysis	3
10-801-195	Communication-Written	3
	Elective	3
	SEMESTER TOTAL	**16**

FOURTH SEMESTER

10-614-146	Systems-Mechanical	3
10-614-147	Commercial Draft-Concrete	4
10-801-197	Reporting-Technical	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**16**

SUGGESTED ELECTIVES: 3D Modeling with CAD (10-606-136), Survey/Site Development (10-607-106).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-614-115 ARCHITECTURAL DRAFTING PRINCIPLES ...traditional methods to develop basic architectural drafting techniques, linework, lettering, and geometric construction; terminology and construction methods; residential working drawing interpretation.

10-614-116 ARCHITECTURAL COMPUTER APPLICATIONS ...PC Hardware; Microsoft Windows, Word, Excel, Powerpoint, and Internet usage; Drafting Software and an introduction to AutoCAD.

10-614-121 MATERIALS-BUILDING CONSTRUCTION ...CSI materials filing system, general requirements/forms, site work, concrete, masonry, metals, wood and plastics, thermal/moisture protection, doors/windows, finishes and specialties, equipment/furnishings, special construction, and conveying systems.

10-614-125 RESIDENTIALDESIGN/DRAFTING ...residential design principles, architectural drafting techniques using traditional and CAD methods to develop residential working drawings; team projects and presentation techniques. (Prerequisites: 10-614-115, Architectural Drafting Principles; 10-614-121, Materials-Building Construction; 10-804-130, Algebra/Trigonometry)

10-614-131 STRUCTURALDRAFT-WOOD/STEEL ...application of math to buildings, structural wood, and structural steel: standard methods of drawing structural wood and steel; familiarity with references used in structural wood and steel industries. (Prerequisites: 10-614-115, Architectural Drafting Principles; 10-614-121, Materials-Building Construction)

10-614-135 COMMERCIALDRAFTING-STEEL ...preparation of architectural working drawings for steel frame buildings: plans, elevations, sections, and details. (Prerequisites: 10-606-120, CAD Architectural; 10-614-131, Structural Drafting-Wood/ Steel; 10-614-125, Residential Design/Drafting)

10-614-141 STRUCTURAL DRAFT-CONCRETE ...application of building loads and codes to determine structural member size, reinforced/prestressed concrete, precast concrete, and structural concrete drawing methods. (Prerequisites: 10-606-120, CAD-Architectural; 10-614-131, Structural Drafting-Wood/Steel)

10-614-146 SYSTEMS-MECHANICAL ...plumbing, HVAC/R, electrical systems, calculations, mechanical drafting, space requirements, codes, mechanical specification, and construction within the building. (Prerequisites: 10-614-125, Residential Design/Drafting; 10-606-120, CAD-Architectural; 10-806-150, Physics 1-Tech)

10-614-147 COMMERCIAL DRAFTING-CONCRETE ...working drawings for reinforced and precast concrete framed buildings, accepted symbols and dimensioning with field dimensions and preliminary drawings, and working drawings for a structural concrete frame building. (Prerequisites: 10-614-135, Commercial Drafting-Steel; 10-614-141, Structural Drafting-Concrete)

10-614-151 ESTIMATING-BUILDING ...residential materials take off and square foot material and labor costs along with construction techniques. (Prerequisites: 10-614-115, Architectural Drafting Principle; 10-614-121, Materials-Building Construction; 10-804-130, Algebra/Trigonometry)

10-614-160 STRUCTURALANALYSIS ...mathematical investigation of forces, force actions, beam and column design, properties of sections, and application to wood member structural design. (Prerequisites: 10-614-125, Residential Design/Drafting; 10-804-131, Algebra-Intermediate; 10-806-150, Physics 1-Tech)

Descriptions of courses not found on this page can be found in the back of the catalog.

Auto Collision Repair and Refinish Technician

TECHNICAL DIPLOMA - ONE YEAR

Program Code 314051

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Auto Collision Repair and Refinish Technician prepares students to repair and refinish damaged bodies and parts of automobiles and light trucks.

Graduates of the Auto Collision Repair and Refinish Technician Program will be able to:
- Straighten damaged autobody sheetmetal.
- Repair plastic and composite body parts.
- Refinish automobile body parts.
- Repair and replace stationary glass.
- Repair damaged automobile and light truck frames.
- Repair minor unibody structural damage.
- Estimate collision damage repair costs.
- Weld sheetmetal.
- Repair manual and passive restraint systems.
- Diagnose problems in automotive electrical, electronic, and mechanical systems.
- Repair steering and suspension systems.
- Pass Automotive Service Excellence Autobody and Paint Certification Exam.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics, science, and technology education

READING LEVEL

Textbook readability within this program has an average level of 11th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Auto Collision Repair Technician, Auto Collision Refinishing Technician, Frame and Alignment Technician, and Trim and Glass Installer.

AUTO COLLISION REPAIR TECHNICAN:
repairs damaged bodies of cars and light trucks; works with all body parts and sections; removes damaged panels and welds in new ones; removes and replaces accessories, glass, electrical parts, and interior trim; repairs or replaces plastic or composite parts; and straightens dents in sheet metal panels to restore the vehicle to pre-accident condition.

AUTO COLLISION REFINISHING TECHNICIAN:
completes the refinishing phase of all repairs on cars, trucks, and fleet vehicles; does all stages of priming, sanding, and sealing prior to the paint application; determines the type and color of paint to do the refinishing; is familiar with mixing, tinting, and shading as well as the application of color for matching; and buffs, polishes, stripes, and details vehicle to complete the repair job.

FRAME AND ALIGNMENT TECHNICIAN:
straightens, welds, replaces, and aligns all types of frames and suspensions of cars and trucks to restore them to factory specifications.

TRIM AND GLASS INSTALLER: removes, replaces, or repairs all types of glass or glass-related problems on all types of vehicles; removes and replaces upholstery; and repairs interior and exterior trim.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Uni-Body Repair Specialist
- Insurance Adjuster and Appraiser
- Equipment and Supplies Specialist
- Frame and Alignment Specialist
- Manager/Shop Owner

CURRICULUM

The Auto Collision Repair and Refinish Technician Technical Diploma is a one-year, two-semester program. Upon graduation, a students will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-405-316	Auto Body Collision Repair OR	12
31-405-326	Auto Body Refinishing	12
31-405-328	Collison Estimating	1
31-442-344	Welding-Light Gage	2
31-801-386	Communicating-Interpers	1
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
31-404-321	Automotive Fundamentals	2
31-405-326	Auto Body Refinishing OR	12
31-405-316	Auto Body Collision Repair	12
32-404-302	Auto Electricity 1	1
	SEMESTER TOTAL	**15**

NOTE: Both 31-405-316, Auto Body Collision Repair, and 31-405-326, Auto Body Refinishing, are offered each semester. A graduate must complete both courses in any order to receive a diploma.

ACCREDITATION: Certified as ASE training site, and to use ASE Seal of Excellence.

ASSOCIATION: National Institute for Automotive Service Excellence.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-404-321 AUTOMOTIVE FUNDAMENTALS
...preventive maintenance, suspension systems, tires, wheel alignment, brakes, air conditioning, and engine diagnosis fundamentals.

31-405-316 AUTO BODYCOLLISION REPAIR
...body shop safety, hand and power tools, damaged metal analysis, basic sheet metal repairs, power jacking, panel replacement, body adjustment, glasswork, interior trim, restraint systems, underbody and frame, unitized repair.

31-405-326 AUTO BODYREFINISHING ...safety and environmental practices; understanding automotive finishes; surface preparation; refinishing equipment; finish application; tinting and blending; correcting finish defects; detailing; plastic identification, repair, and refinishing.

31-405-328 COLLISION ESTIMATING ...body construction, parts nomenclature, model identification, VIN numbers, paint codes, numbering systems, parts manuals, parts sources, and estimating.

31-442-344 WELDING-LIGHT GAGE ...welding processes, machines and accessories, gas metal arc welding (wire), oxyacetylene cutting, welding and brazing, and gas tungsten arc welding.

32-404-302 AUTO ELECTRICITY 1 ...DC electricity, magnetism, ohms, amperes, voltage, wire repair, series and parallel circuits, use of meters, semiconductors, and transistors.

Descriptions of courses not found on this page can be found in the back of the catalog.

Automotive Maintenance Technician
Program Code 314043

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Marinette campus. This diploma also fulfills the first year of the Automotive Technician Technical Diploma offered in Green Bay. Admissions, registration, or counselor: (715) 735-9361. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

There are over 162 million automobiles and trucks on our highways. One out of every seven employed persons works in the manufacturing, distribution, maintenance, or commercial use of motor vehicles. Because of the greater emphasis on electronics and computer systems, many more trained persons will be required to maintain these vehicles. The Automotive Maintenance Technician program prepares students for job entry in an automotive service department.

Major emphasis is placed on realistic and practical shop applications.
- Ignition systems
- Emissions
- Brakes
- Charging and starting systems
- Suspension, 4-wheel alignment
- Fuel injection, fuel delivery systems
- Automotive Preventative Maintenance

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics, science, and industrial education classes

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a General Automotive Service Technician, Alignment Specialist, Preventive Maintenance Technician, Brake Specialist, or Service Writer.

GENERAL AUTOMOTIVE SERVICE TECHNICIAN: diagnoses and locates troubles and makes the right parts replacements and adjustments on cars and light trucks.

ALIGNMENT SPECIALIST: does front and four wheel alignment using computerized alignment equipment.

PREVENTIVE MAINTENANCE TECHNICIAN: provides regularly scheduled maintenance as per manufacturers' specifications.

BRAKE SPECIALIST: performs brake systems maintenance and component replacement.

SERVICE WRITER: meets and greets customers, listens to and records customer repair requests, and processes work orders for the automotive service technicians.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Fleet Dispatcher
- Shop Supervisor
- Specialty Shop Owner
- Specialty Technician

CURRICULUM

The Automotive Maintenance Technician Technical Diploma is a one-year two-semester program. Upon graduation students will have completed 31 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-442-350	Welding-Machine Trades	2
31-801-385	Communicating-Writing	1
32-404-314	Automotive Brakes	5
32-404-315	Automotive Engine Performan	5
32-404-317	Automotive Wiring & Schematics	1
32-404-318	Automotive DC Electricity	1
32-404-360	Auto Tech Preparation	1
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
31-801-386	Communicating-Interpers	1
31-804-301	Math 1-Trades	2
32-404-324	Auto-Steering/Suspension	5
32-404-326	Auto-Chassis Electricity	2
32-404-327	Auto Performance 2	6
	SEMESTER TOTAL	**16**

NOTE: A second year leading to a two year Automotive Technician Technical Diploma can be taken on the Green Bay campus.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-442-350 WELDING-MACHINE TRADES
...oxyacetylene welding, brazing, soldering; cutting, hardsurfacing, out-of-position welding, arc welding of machines/accessories, running beads, types of joints, welding thin gauge, arc cutting, and heating.

32-404-314 AUTOMOTIVE BRAKES ...brake safety, wheel bearings, brake preventive maintenance, disc brake and drum brake overhaul, rotor and drum machining, master cylinder, brake lines and hoses, safety switches and valves, power and anti-lock brakes. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-315 AUTOMOTIVE ENGINE PERFORMANCE 1 ...engine theory, engine design, engine operation, purpose of ignition systems, distributor ignition systems, electronic ignition systems, ignition testing equipment, and ignition testing procedures. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-317 AUTOMOTIVE WIRING & SCHEMATICS ...electrical symbols, wiring diagrams, tracing wiring ciruits, and diagnosing electrical problems with wiring diagrams.

32-404-318 AUTOMOTIVE DC ELECTRICITY
...ohms, amperes, voltage, wire repair, series and parallel circuits, meter use, and magnetism.

32-404-324 AUTO-STEERING/SUSPENSION
...wheel bearings, four-wheel alignment, tires/wheels, shock absorbers/struts, front suspension, rear suspension, steering linkage, rack and pinion steering, recirculating ball steering gears, power steering pumps and frames/frame damage. (Corequisite: 32-404-360, Auto Tech Preparation)

32-404-326 AUTO-CHASSIS ELECTRICITY
...batteries, starting and charging system components, lighting system components, indicator system components, horn system components, motor driven system components. (Prerequisite: 32-404-316, Auto DC Electricity)

32-404-327 AUTO PERFORMANCE 2 ...engine fuel safety, fuel types ratings, fuel supply components, air induction components, fuel injection systems, exhaust systems, turbocharger, vehicle emissions, emission testing, computer input/output information and scanners. (Prerequisite: 32-404-315, Auto Engine Performance; Corequisite: 32-404-360, Auto Tech Prep)

32-404-360 AUTO TECHNICIAN PREPARATION
...personal safety, automotive lab equipment safety, vehicle repair order information, automotive industry computer applications, automotive repair tools, industry fasteners, automotive chemicals, vehicle preventive maintenance.

Automotive Technician Program Code 324042

TECHNICAL DIPLOMA - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.
The first year of the program is also offered on the Marinette campus. Course information: (715) 735-9361. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Automotive Technician prepares students for work in an automotive service department. Students learn to repair and service all mechanical parts of the automobile under conditions similar to those in an actual shop environment.

Graduates of the Automotive Technician Program will be able to:

- Diagnose and repair automotive engine performance systems.
- Diagnose and repair automotive suspension and steering systems.
- Diagnose and repair automotive brake systems.
- Diagnose and repair automotive DC electrical systems.
- Diagnose and repair automotive electronic systems.
- Diagnose and repair automotive heating and air conditioning systems.
- Diagnose and repair automatic transmission/transaxles.
- Diagnose and repair general internal automotive engines.
- Diagnose and repair automotive manual drive train and axles.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics, science, and technology education

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Automotive Service Technician, Automotive Electronics Specialist, Engine Repair Specialist, Transmission and Drive Train Specialist, Alignment Specialist, Service Manager, Assistant Service Manager, Service Writer, or Brake Specialist.

AUTOMOTIVE SERVICE TECHNICIAN: diagnoses and locates trouble, makes the necessary repairs, makes the right parts replacements and adjustments on cars and light trucks.

AUTOMOTIVE ELECTRONICS SPECIALIST: diagnoses and locates problems, makes necessary repairs as related to engine body and transmission computer controls.

ENGINE REPAIR SPECIALIST: disassembles engines, inspects engine components, reassembles to factory specifications.

TRANSMISSION AND DRIVE TRAIN SPECIALIST: diagnoses and locates problems, makes necessary repairs to automatic and standard transmissions and drive members.

ALIGNMENT SPECIALIST: diagnoses, makes repairs, and adjusts suspension using computerized alignment equipment.

SERVICE MANAGER or ASSISTANT SERVICE MANAGER: meets customers and works with the technicians to help diagnose and locate vehicle trouble areas.

SERVICE WRITER: meets and greets customers, listens to and records customer repair requests, processes work orders for the automotive service technicians.

BRAKE SPECIALIST: perform brake system maintenance and component replacement.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Shop Supervisor
- Specialty Technician
- Fleet Dispatcher
- Specialty Repair Shop Owner
- Automotive Instructor

CURRICULUM

The Automotive Technician Technical Diploma is a two-year, four-semester program. Upon graduation, a student will have completed 64 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-442-350	Welding-Machine Trades	2
31-801-385	Communicating-Writing	1
32-404-314	Automotive Brakes	5
32-404-315	Automotive Engine Performan	5
32-404-317	Automotive Wiring & Schematics	1
32-404-318	Automotive DC Electricity	1
32-404-360	Auto Tech Preparation	1
	SEMESTER TOTAL	16

SECOND SEMESTER

31-801-386	Communicating-Interpers	1
31-804-301	Math 1-Trades	2
32-404-324	Auto-Steering/Suspension	5
32-404-326	Auto-Chassis Electricity	2
32-404-327	Auto Performance 2	6
	SEMESTER TOTAL	16

THIRD SEMESTER

31-419-311	Hydraulics-Applied	2
32-404-335	Auto-Heating/Cooling Ac	4
32-404-337	Auto-Electronics Computer	3
32-404-345	Auto-Engine Repair	5
32-806-353	Science-Mechanics	2
	SEMESTER TOTAL	16

FOURTH SEMESTER

31-809-301	Social Science Survey	2
32-404-338	Automatic Trans/Transaxle	6
32-404-346	Auto-Manual Trans/Differ	4
32-404-347	Auto-Electronics/Manuf Spec	3
32-405-306	Auto Body Fundamentals	1
	SEMESTER TOTAL	16

The Automotive Technician Program is ASE certified in all eight automotive program areas. All staff are ASE certified.

NOTE: The first year of this program is offered on both the Marinette and Green Bay campuses.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-442-350 WELDING-MACHINE TRADES ...oxyacetylene welding, brazing, soldering; cutting, hardsurfacing, out-of-position welding, arc welding of machines/accessories, running beads, types of joints, welding thin gauge, arc cutting, and heating.

32-404-314 AUTOMOTIVE BRAKES ...brake safety, wheel bearings, brake preventive maintenance, disc brake and drum brake overhaul, rotor and drum machining, master cylinder, brake lines and hoses, safety switches and valves, power and anti-lock brakes. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-315 AUTOMOTIVE ENGINE PERFORMANCE 1 ...engine theory, engine design, engine operation, purpose of ignition systems, distributor ignition systems, electronic ignition systems, ignition testing equipment, and ignition testing procedures. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-317 AUTOMOTIVE WIRING & SCHEMATICS ...electrical symbols, wiring diagrams, tracing wiring ciruits, and diagnosing electrical problems with wiring diagrams.

32-404-318 AUTOMOTIVE DC ELECTRICITY ...ohms, amperes, voltage, wire repair, series and parallel circuits, meter use, and magnetism.

32-404-324 AUTO-STEERING/SUSPENSION ...wheel bearings, four-wheel alignment, tires/wheels, shock absorbers/struts, front suspension, rear suspension, steering linkage, rack and pinion steering, recirculating ball steering gears, power steering pumps and frames/frame damage. (Corequisite: 32-404-360, Auto Tech Preparation)

32-404-326 AUTO-CHASSIS ELECTRICITY ...batteries, starting and charging system components, lighting system components, indicator system components, horn system components, motor driven system components. (Prerequisite: 32-404-316, Auto DC Electricity)

32-404-327 AUTO PERFORMANCE 2 ...engine fuel safety, fuel types ratings, fuel supply components, air induction components, fuel injection systems, exhaust systems, turbocharger, vehicle emissions, emission testing, computer input/output information and scanners. (Prerequisite: 32-404-315, Auto Engine Performance; Corequisite: 32-404-360, Auto Tech Prep)

32-404-335 AUTO-HEATING/COOLING AIR CONDITIONING ...related system safety, engine cooling flushing/recycling, heating system components, refrigerants, clean air automotive A/C system, A/C test equipment, A/C evacuation recycling and recharging. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-337 AUTO-ELECTRONICS COMPUTER ...knowledge and skill development related to computer controlled vehicle systems, ranging from chassis systems through extensive emphasis on engine performance and driveability related controls. (Prerequisite: 32-404-326, Auto-Chassis Electricity; Corequisite: 32-404-360, Auto Tech Prep)

32-404-338 AUTOMATIC-TRANSMISSION/ TRANSAXLE ...transmission transaxle safety, transmission fluid, transmission maintenance, test procedures, external transmission adjustments, transmission removal, transmission overhaul, transmission elecronic diagostics. (Corequisites: 32-404-360, Auto Tech Prep; 31-419-311, Applied Hydraulics)

32-404-345 AUTO-ENGINE REPAIR ...engine lubrication system, four stroke theory, valve timing, engine failures, valve service, cylinder head replacement, engine replacement, engine overhaul. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-346 AUTO-MANUALTRANSMISSION/ DIFFERENTIAL ...drive train safety, universal joints, half-shafts, transmission repair/overhaul, clutch, shift linkage, four-wheel drive, differential. (Corequisite: 32-404-360, Auto Tech Prep)

32-404-347 AUTO-ELECTRONICS/ MANUFACTURERS SPECIFICATION ...GM-(CCC), electronic and port fuel injection; Ford-electronic engine control IV, carburetor, single and multipoint fuel injection; Chrysler-oxygen feedback, Bosch electronic fuel injection systems. (Prerequisite: 32-404-337, Auto-Electronics Computer)

32-404-360 AUTO TECHNICIAN PREPARATION ...personal safety, automotive lab equipment safety, vehicle repair order information, automotive industry computer applications, automotive repair tools, industry fasteners, automotive chemicals, vehicle preventive maintenance.

32-405-306 AUTO BODYFUNDAMENTALS FOR AUTO MECHANICS ...body construction, interior trim, interior mechanics, body alignment, wind noise and water leaks, plastic parts, glass replacement, and automotive paints.

Automotive Technology PENDING APPROVAL

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Automotive Technology prepares students for work in an automotive repair facility. Students learn to diagnose and service automobiles under conditions similar to an actual repair facility. Students will develop repair facility management skills such as telephone etiquette, communication techniques, operation, managing and organization skills.

Graduates of the Automotive Technology Program will be able to:

• Diagnose and repair automatic transmission/transaxles.
• Diagnose and repair automotive heating and air conditioning systems.
• Diagnose and repair automotive manual drive train and axles.
• Diagnose and repair automotive brake systems.
• Diagnose and repair internal automotive engine components.
• Diagnose and repair automotive suspension and steering systems.
• Diagnose and repair automotive electrical system problems.
• Diagnose and repair automotive electronic engine control systems.
• Communicate effectively with the customer.
• Complete customer repair orders accurately.
• Organize a daily work schedule
• Tabulate a daily time sheet of technicians repair work

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Automotive Service Technician, Automotive Electronics Specialist, Engine Repair Specialist, Transmission and Drive Train Specialist, Alignment and Suspension Specialist, Service Writer, Shop Foreman, Service Manager, Parts Manager, Warranty Claims Person, or an Owner/Operator.

SHOP FOREMAN: Works with the technician and customer to get vehicles repaired correctly.

PARTS MANAGER: Organizes and oversees the parts department. Works with the technicians to get the correct parts to repair the vehicles.

WARRANTY CLAIMS PERSON: Calculates the amount of time spent repairing a vehicle compared to what the manufacturer will allow.

OWNER/OPERATOR: Owns and operates his/her own repair facility, may have employees working for them.

Recommended off campus work experiences; 20 hours in each area;

• Automotive Service Writer
• Automotive Service Manager
• Automotive Shop Foreman
• Automotive Parts Manager
• Automotive Warranty Claims Person
• Automotive Service Department Manager
• Automotive Human Relations Manager
• Other areas with instructors approval

CURRICULUM

The Automotive Technology Associate Degree is a two-year, four semester program. Upon graduation, a student will have completed 72 credits.

FIRST SEMESTER

Course No.	Description	Credits
602-1XX	Brake Technology	5
602-1XX	Engine Performance I Technology	5
602-1XX	DC Electricity Technology	1
602-1XX	Wiring & Schematics Technology	1
602-1XX	Auto Preparation Technology	1
801-196	Communications-Interpersonal	3
804-120	Tech Math Algebra	3
	SEMESTER TOTAL	**19**

SECOND SEMESTER

Course No.	Description	Credits
602-1XX	Steering/Suspension Technology	5
602-1XX	Chassis Electricity Technology	2
602-1XX	Engine Performance II Technology	6
801-195	Communication-Written	3
809-197	Society-American Contemporary	3
	SEMESTER TOTAL	**19**

THIRD SEMESTER

Course No.	Description	Credits
602-1XX	Heating/Cooling AC Technology	4
602-1XX	Electronics Computer Technology	3
602-1XX	Engine Repair Technology	5
801-197	Technical Reporting	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

Course No.	Description	Credits
602-1XX	Auto Trans/Transaxle Technology	6
602-1XX	Manual Trans/Differential Technology	4
809-199	Psychology-Human Relation	3
	Elective	3
	SEMESTER TOTAL	**16**

SUGGESTED ELECTIVES: 10-602-1XX Electronics Manufacturers Specifics; 10-102-158 Business-Introduction; 10-145-177 Small Business; 10-104-191 Customer Service Management.

NOTE:* A3 to 5 page paper is required for each area experienced. The paper will include job title, work experience, responsibilities, normal work hours, and inter-personal skills required. Assess from your time on the job what possible classes and/or work experience would be beneficial to a person pursuing a job in this area. Agrade in the work experience will be based on employer input and the paper.

NOTE: ** Specific project information to be obtained from program Instructor.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-602-1XX BRAKE TECHNOLOGY ...brake safety, wheel bearings, brake preventive maintenance, disc and drum brake overhaul, rotor and drum machining, master cylinder, brake lines and hoses, safety switches and valves, power and anti-lock brakes, *10 hour off campus selected work experience.

10-602-1XX ENGINE PERFORMANCE I TECHNOLOGY ...engine safety, preventive maintenance, four stroke theory, ignition systems, test equipment, scopes, *10 hour off campus selected work experience.

10-602-1XX DC ELECTRICITY TECHNOLOGY ...ohms, amps, voltage, wire repair, series and parallel circuits, meter use, magnetism, ** research paper comparing and contrasting A/C and D/C electrical applications.

10-602-1XX WIRING & SCHEMATICS TECHNOLOGY ...electrical symbols, wiring diagrams, tracing wiring circuits, and diagnosing electrical problems with wiring diagrams, ** design an automotive electrical circuit.

10-602-1XX AUTO PREPARATION TECHNOLOGY ...personal safety, auto equipment safety, repair order information, industry computer applications, repair tools, fasteners, chemicals, vehicle preventive maintenance, ** research OSHA automotive shop safety requirements.

10-801-196 COMMUNICATION-INTERPERSONAL ...the communication process, interpersonal relationships, self-concept, perception, language, nonverbal messages, cultural differences, listening, group interaction, and public communication.

10-804-120 TECH MATH ALGEBRA ...operations and properties, expressions and equations, inequalities real numbers, polynomials, linear sentences, radicals, quadratics, and functions.

10-602-1XX STEERING/SUSPENSION TECHNOLOGY ...steering and suspension safety, wheel bearings, tire types and ratings, wheel balance and alignment, tire changing, wheel and tire runout, shocks, suspension components, steering components, steering gears, rack and pinion, *10 hour off campus selected work experience.

10-602-1XX CHASSIS ELECTRICITY TECHNOLOGY ...batteries, starting and charging system components, lighting system components, indicator system components, horn system components, motor driven system components, ** research paper on automotive hybrids.

10-602-1XX ENGINE PERFORMANCE II TECHNOLOGY ...engine fuel safety, fuel types and ratings, fuel supply components, air induction components, fuel injection systems, exhaust systems, turbocharger, vehicle emissions, emission testing, computer input/output information and scanners, *10 hour off campus selected work experience.

10-801-195 COMMUNICATION-WRITTEN ...the principles of business and technical writing, ethics and cultural considerations, the writing process, document design techniques, memorandums, business letters, job-seeking skills, instructions, definition, description, summary, and short reports.

10-801-197 TECHNICAL REPORTING ...principles of technical writing and correspondence, proposal, questionnaire, interview, on-site visit, progress report, feasibility report, evaluation, and oral presentation.

10-602-1XX HEATING/COOLING AC TECHNOLOGY ...related system safety, engine coolant flushing/recycling, heating system components, refrigerants, A/C systems, A/C test equipment, A/C evacuation recycling and recharging, *10 hour off campus work experience.

10-602-1XX ELECTRONICS COMPUTER TECHNOLOGY ...knowledge and skill development related to computer controlled vehicle systems ranging from chassis systems through extensive emphasis on engine performance and driveability related controls, ** build an electrical circuit utilizing solid state electronic components.

10-602-1XX ENGINE REPAIR TECHNOLOGY ...engine lubrication system, four stroke theory, valve timing, engine failures, valve service, cylinder head replacement, engine replacement, engine repair, *10 hour off campus selected work experience.

10-809-197 SOCIETY-AMERICAN CONTEMPORARY ...issues, structures, processes, and trends related to concepts, principles, and theories that sociologically explicate family, religion, education work, government and the media.

10-602-1XX AUTO TRANS/TRANSAXLE TECHNOLOGY ...transmission/transaxle safety, transmission fluid, transmission maintenance, pressure tests, external adjustments, transmission removal, transmission overhaul, *10 hour off campus selected work experience.

10-602-1XX MANUAL TRANSMISSION/ DIFFERENTIAL TECHNOLOGY ...drivetrain safety, universal joints, half-shafts, transmission repair/overhaul, clutch, shift linkage, four-wheel drive, differential, *10 hour off campus selected work experience.

10-809-199 PSYCHOLOGY-HUMAN RELATIONS ...decision-making, conflict resolution, learning strategies, growth and adjustment, social psychology, diversity, motivation, psychological theories and disorders, stress, career analysis, lifespan development, and personal/professional relationships.

Descriptions of general Occupational Support courses can be found after the program descriptions at the back of the catalog.

Business Administration Credit

Program Code 101041

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Business Administration Credit prepares learners for a career in credit management. The learners will comprehend the concepts of leadership, demonstrating promotion, control, and collection of consumer and business transactions.

Graduates of this program will be able to:

- Perform basic finance math calculations.
- Operate a microcomputer word processing program.
- Analyze business and personal financial statements.
- Construct a personal financial statement.
- Use financial counseling techniques.
- Assess how economic policies and changes in the level of business activity affect the credit industry.
- Write credit related documents.
- Use an electronic spreadsheet computer program, such as Lotus 1-2-3 or Excel.
- Use a financial calculator.
- Lead individuals to accomplished tasks.
- Demonstrate state and federal laws.
- Evaluate a family's personal financial management decisions.
- Collect past-due bills and payments.
- Evaluate the performance of a credit department.
- Make credit decisions.
- Conduct credit investigations.
- Screen credit applications.
- Complete applications for credit accounts.
- Promote the use of credit by customers.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Credit Manager Trainee, Assistant Credit Manager, Credit Administrator, Collection Agent, Customer Service Representative, Personal Banker, Loan Officer, and Financial Planning Assistant.

CREDIT MANAGER TRAINEE: learns all phases of operating a financial institution or credit department, usually in preparation for a branch management position.

ASSISTANT CREDIT MANAGER: assists a branch or department manager in all phases of operation, including the extension, collection, and control of credit.

CREDIT ADMINISTRATOR: supports the credit process in the application of cash receipts, collection calls, and problem resolution.

COLLECTION AGENT: works with organizations and clients to procure prompt payment of accounts; contacts customers, arranges for payments, and counsels clients to assist in managing financial affairs; and may become involved with legal aspects of collections.

CUSTOMER SERVICE REPRESENTATIVE: handles all general transactions in deposits, withdrawals, and certificates of deposit with customers and is responsible for balancing the cash drawer.

PERSONAL BANKER: assists customers in opening accounts, explains bank services, and becomes involved in other financial institution services.

LOAN OFFICER: processes and investigates applications for credit and makes decisions on loan applications.

FINANCIAL PLANNING ASSISTANT: aids financial planner in areas such as stocks, bonds, treasury bills, and other investments. May need additional course work in areas of securities.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Investment Advisor
- Credit Manager
- Bank Officer

CURRICULUM

The Business Administration Credit Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 69 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-102-101	Financial Applications	3
10-103-103	Micro Basics MS Office 1	3
10-104-113	Credit-Consumer	3
10-801-195	Communication-Written	3
10-804-101	Math-Business	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	18

SECOND SEMESTER

10-101-110	Accounting 1	4
10-102-150	Law-Business	3
10-102-153	Finance-Personal	3
10-104-114	Credit-Business	3
10-801-196	Oral/Interpers Communication	3
	SEMESTER TOTAL	16

THIRD SEMESTER

10-102-160	Law-Credit	3
10-102-165	Collection Methods	2
10-102-172	Financial Statement Analy	3
10-104-121	Credit Management Practices	3
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	17

FOURTH SEMESTER

10-102-122	Financial Inst-Mktg	3
10-102-174	Financial Counseling Tech	3
10-104-144	Credit Management Seminar	3
10-104-146	Credit Internship	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	18

SUGGESTED ELECTIVES: Financial Problem Solving (10-102-117), Accounting 2 (10-101-120), Abnormal Psychology (10-809-173).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-102-122 FINANCIALINSTITUTIONS-MARKETING ...fundamental concepts of marketing and the application of these concepts; as financial institutions enter the electronic era, effective marketing will be critical in determining the course of the industry.

10-102-150 LAW-BUSINESS ...common law contracts and sales contracts: formation, interpretation, performance, and discharge; the law of agency; corporations; and introduction to the American legal system: criminal and tort law.

10-102-153 FINANCE-PERSONAL ...income and occupations, financial spending plan development, purchasing consumer goods and services, risk management plan development, investment plan development, retirement and estate planning, and financial advising.

10-102-160 LAW-CREDIT ...Uniform Commercial Code, credit regulations, Wisconsin Consumer Protection Law, collection law, and bankruptcy.

10-102-165 COLLECTION METHODS ...classes of debtors, collection laws, pre-legal and legal methods used in collections, bad check collections, and skip tracing.

10-102-174 FINANCIALCOUNSELING TECHNIQUES ...cause of overspending, assessing clients' conditions, creating spending plans, eliminating deficits, telephone counseling, successful sessions, building solutions, questioning techniques, common client situations, counseling compulsive personalities, housing counseling, and assessing results.

10-104-113 CREDIT-CONSUMER ...the role of consumer credit, loan processes, collections; financial advising and counseling; loan, promotion, and bank policies; consumer, commercial, mortgage loans, and credit cards.

10-104-114 CREDIT-BUSINESS ...credit in the economy, business credit, management and analysis of commercial credit, basis of decision-making, financial statement analysis and interpretation, credit and collection policies, international trade credit, and control of credit operations.

10-104-121 CREDIT MANAGEMENT PRACTICES ...manager's responsibilities/environment, planning, problem solving, organizational structure/cultures, staffing/human resources, leadership/teamwork, motivational techniques, communications, management controls, ineffective performers, and ethical business practices.

10-104-144 CREDIT MANAGEMENT SEMINAR ...case problems, research, and presentations related to credit administration, credit control, collections, marketing, effective management elements, and management functions.

10-104-146 CREDIT INTERNSHIP ...internship or field observations, career exploration, self exploration, career planning, and career placement. Course should be taken during the last semester.

Child Care Program Code 303071

TECHNICAL DIPLOMA - ONE SEMESTER

Offered at the Green Bay campus. Admissions, registration or counselor: (920) 498-5733. Course Information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Child Care Program prepares students to plan and supervise activities for the normal and exceptional child. Courses are designed to meet state requirements. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us.

Graduates of the Child Care program will be prepared to:
• Find employment as a Child Care Professional.
• Comply with Wisconsin DHFS Code for licensed child care.
• Facilitate a workable, safe, developmentally appropriate learning environment for young children.
• Practice sensitivity to diversity.
• Analyze observations of children and environment to promote positive changes in meeting the needs of children.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• An interview or orientation prior to being accepted in the program
• A medical examination satisfactorily completed within three months before entering the program
• A passing level on required entrance test

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog.

NOTE: A STUDENT WHO DOES NOT MEET THE ABOVE REQUIREMENTS is required to consult an NWTC counselor about ways to make up any deficiencies through testing or course work.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Assistant Child Care Teacher, or Early Childhood Teacher in Group Centers, Family Day Care Provider, or Nanny.

ASSISTANT CHILD CARE TEACHER: works as an assistant to the Early Childhood teacher with a group of children.

EARLY CHILDHOOD TEACHER IN GROUP CENTERS: plans and implements daily activities with concern for health, safety, and welfare for a designated group of children; supervises the assistant child care teacher; supervises program that encourages self-esteem and positive self-image, social interaction, self-expression, communication skills, and creative expression, gross and fine muscle development, and intellectual growth; and provides a flexible balance of active and quiet activities, individual and group activities, indoor and outdoor activities, free choice, and guided activities. In addition, positive communications and supportive relationships with other staff and parents are essential.

FAMILY DAY CARE PROVIDER: plans and implements comprehensive program for the child's total development with concern for child's health, safety, and welfare in a family/home environment. In addition to responsibilities of running a small business, the job description for the family day care provider is similar to the Early Childhood Teacher in Group Centers (See above.)

NANNY: provides care, activities, and supportive guidance of children for an individual family in their home.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Child Care Program Director
• Day Camp Director
• Child Care Center Administrator
• Child Care Center Manager

CURRICULUM

The Child Care Technical Diploma is a one semester program. Upon graduation, a student will have completed 12 credits. Early Childhood Education Associate Degree courses planned for Fall 2001. For details contact the Health & Community Service Division Offices at (920) 498-5543.

FIRST SEMESTER

Course No.	Description	Credits
* 30-307-316	Childhood 1-Early	1
	OR	
* 30-307-318	Child/Family Daycare	1
* 30-307-317	Infant/Toddler Care	1
* 30-307-326	Childhood 2-Early	1
* 30-307-327	Creative Activities	1
* 30-307-328	Child Nutr/Health/Safe	1
* 30-307-331	Child Care-Special Need	1
* 30-307-332	Child Care-Anti Bias	1
* 30-307-333	Child Care-School Age	1
* 30-307-334	Child Care-Observation	1
* 30-307-355	Child Care-Community	3
	SEMESTER TOTAL	**12**

NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program.

This program is partially eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-307-316 CHILDHOOD 1-EARLY ...introduction to assistant childcare teacher roles, childcare profession, Wisconsin Code, child development, self concept, curriculum areas, guidance, schedules, routines/transitions, child health, safety, abuse awareness. (40 hours - 90% attendance required).

30-307-317 INFANT/TODDLER CARE ...the growth and development of children from birth to age 2-1/2 years including environmental needs; routine care; safe, stimulating, and responsive activities by the care giver; and parent/child communications. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-318 CHILD/FAMILY DAYCARE ...child growth and development; provider-child-parent interactions; availability and use of community resources; family daycare business; and basic nutrition, health, and safety requirements. 40 hour course. (90% attendance required)

30-307-326 CHILDHOOD 2-EARLY ...introduction to childcare teacher role, community organizations, resources, observation, special needs, lesson planning, classroom environment, appropriate equipment, health and safety, positive guidance techniques, parent communication. (40 hours - 90% attendance required) (Prerequisite: 30-307-316, Childhood 1-Early)

30-307-327 CREATIVE ACTIVITIES ...readiness activities, math/blocks, music, reading, literature/language, social studies, science, art, dramatic play, puppets, aesthetic development, food experiences, and games for young children. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-328 CHILD NUTRITION/HEALTH/SAFETY ...early childhood health, health education, communicable disease control, sanitation guidelines, safety guidelines, and nutrition education for child care providers. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-331 CHILD CARE-SPECIALNEED ...opportunities to learn about children who have a developmental delay or disability and how to work with that child and family in a child care setting. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-332 CHILD CARE-ANTI BIAS ...attitudes and beliefs about human differences, creating a developmentally appropriate anti-bias environment, and teaching techniques used to eliminate discriminating behavior. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-333 CHILD CARE-SCHOOLAGE ...developmental characteristics; school-age environments; daily schedules; health, safety, and nutrition guidelines; developmentally appropriate activities, guidance, discipline techniques; staff/parent relationships; community resources; and State rules and regulations for school-age teachers. (Prerequisite: 30-307-326, Childhood 2-Early)

30-307-334 CHILD CARE-OBSERVATION ...the role of observation, areas to observe, observation techniques, data interpretation, and planning based on data collected. (Prerequisite: 30-307-326 Childhood 2-Early)

30-307-355 CHILD CARE-COMMUNITY CENTER EXPERIENCE ...early childhood settings, classroom-based instructional experiences for infants through twelve years, child care staff roles/responsibilities. (Prerequisite: 30-307-326, Childhood 2-Early)

Descriptions of courses not found on this page can be found in the back of the catalog.

Civil Engineering Technology Program Code 106071

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Civil Engineering Technology prepares students to assist civil engineers and land surveyors in field, office, and laboratory work.

Graduates of the Civil Engineering Technology Program will be able to:
- Operate spread sheet and word processing software.
- Calculate mathematical applications using algebra, trigonometry, and calculus.
- Calculate mathematical applications related to geometry.
- Design and test basic construction materials such as asphalt, concrete, and aggregates.
- Perform standard test on soil.
- Draw civil applications such as certified survey maps, plan and profiles, cut and fill, plot plans.
- Describe methods and types of building construction.
- Describe construction and inspection methods.
- Report work projects in written form.
- Operate basic survey equipment.
- Operate advanced survey equipment such as total stations and global positioning systems.
- Summarize the major principles of land survey law.
- Compile data and draw information obtained from field survey operations.
- Summarize basic scientific principles related to the construction industry.
- Describe major concepts of hydraulics and hydrology.
- Describe human relations concepts.
- Describe aspects of contemorary American society related to the construction industry.
- Report project functions in oral form.
- Solve problems relating to statics and material strength.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics, science, and drafting
- Students must have mastered algebra and trigonometry skills and have completed or tested out of Algebra/Trigonometry, course 10-804-130, before entering this program.

READING LEVEL:

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL:

Students must have mastered algebra and trigonometry skills and have completed or tested out of Algebra/Trigonometry, course 10-804-130, before entering this program.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Civil Construction Inspector, Civil Drafter, Civil Soils-Materials Technician, and Survey Technician.

CIVILCONSTRUCTION INSPECTOR: examines and interprets prints and specifications; confers with contractors and owners to enforce contract specifications, building codes, and zoning ordinances; and also inspects soils, asphalt, concrete, building construction, and underground utilities at the project site.

CIVILDRAFTER: drafts detailed construction drawings, survey drawings, topographical profiles, related maps, and specification sheets used in planning construction of highways and streets, buildings, river and harbor improvements, landfills, flood control, drainage, railroads, airports, water and sewer systems, and other civil engineering projects using Computer-Aided Drafting systems.

CIVILSOILS-MATERIALS TECHNICIAN: samples and performs tests on soils, asphalt, concrete, aggregate, and other construction materials; and identifies and classifies samples for foundation, construction, and environmental purposes.

SURVEY TECHNICIAN: obtains data and makes computations pertaining to angles, distances, elevations, points, contours, and other purposes, using levels, total station, data collectors, transits, theodolites, distance measurement equipment, global positioning systems, and other surveying instruments following approved surveying practices.

The program also meets the educational requirements to become a Licensed Land Surveyor in the State of Wisconsin.

With additional education and/or work experience, a graduate may find other opportunities for employment.
- Civil Engineer
- Construction Superintendent
- Building Inspector
- Civil Designer
- Construction Project Manager
- Surveyor

CURRICULUM

The Civil Engineering Technology- Associate Degree is a two-year plus 1 summer, five-semester program. Upon graduation, a student will have completed 72 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-606-112	Engineering Applications	1
10-606-113	CAD	2
10-607-119	Civil Drafting Technology	2
10-607-121	Surveying/Mapping	3
10-607-128	Soil Mechanics	3
10-804-131	Algebra-Inter	3
10-806-150	Physics 1-Technical	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-607-111	Cemented Aggregate Mixtures	3
10-607-127	Public Works Construction	3
10-801-195	Communication-Written	3
10-804-132	Geometry-Analytic	3
10-806-160	Physics 2-Technical	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**18**

SUMMER SEMESTER

10-607-190	Civil Engineering Internshp	2
	SEMESTER TOTAL	**2**

THIRD SEMESTER

10-607-131	Surveying 2	4
10-607-134	Surveying-Drafting	3
10-607-135	Statics/Strength Matl-Civil	4
10-801-196	Oral/Interpers Communication	3
10-804-170	Math 3-Tech Calculus	4
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-607-147	Water Technology	3
10-607-150	Land Surveying Law OR	2
10-607-151	Highway Surveying OR	2
10-607-152	Construction Meth/Bldg Syst OR	2
10-607-153	Global Positioning Systems	2
10-801-197	Reporting-Technical	3
10-809-199	Psychology-Human Rel	3
	Elective	2
	Elective	2
	Elective	2
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES: Highway Surveying Technology (10-607-151), Global Positioning Systems (10-607-180), Land Surveying Law (10-607-162), and Construction Methods and Building Systems (10-607-152).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-606-112 ENGINEERING APPLICATIONS ...basics of a computer system, computer terminology, Windows NT, Microsoft Word, Microsoft Excel, and AutoCAD.

10-606-113 CAD (COMPUTER AIDED DRAFTING) ...computer aided drafting using AutoCAD software focusing on template settings; creating and manipulating layers; basic drawing, editing, and inquiry commands; blocks and attributes; and plotting. (Prerequisites: 10-606-112, Engineering Applications; 10-606-119, Sketching-Technical)

10-607-111 CEMENTED AGGREGATE MIXTURES ...inspection/testing concepts, material sampling procedures, aggregate properties, Portland cement concrete mix design methods, bituminous concrete mix design, field laboratory quality control testing. ACI Grade 1 field certification. American Concrete Institute Grade I Field Testing Technician Certification is available through this course. (Prerequisite: 10-607-128, Soil Mechanics)

10-607-119 CIVILDRAFTING TECHNOLOGY ...the architecture, engineering, and construction industry; fundamentals of drafting; measurement, scaling, and dimensioning; multi-view drawings; and design and construction print reading.

10-607-121 SURVEYING/MAPPING ...basic surveying principles, history of land, surveying, instruments in the field, making computations, and generating computerized maps. (Prerequisite: 10-804-130, Algebra/Trigonometry)

10-607-127 PUBLIC WORKS CONSTRUCTION ...horizontal curves, sewer/water systems, civil engineering mapping, field inspector roles, and CAD applications. (Prerequisites: 10-606-113, Computer Aided Drafting; 10-607-121, Surveying and Mapping)

10-607-128 SOIL MECHANICS ...origins of soil, properties/characteristics of soil, soil classification systems, subsurface exploration, foundations, moisture-density relationships, soil compaction, and groundwater. Use and transporation of portable nuclear density gauges certification available. (Prerequisite: 10-804-130, Algebra/Trigonometry) Certification in the use and transfer of portable nuclear density gauges is available through this course.

10-607-131 SURVEYING 2 ...closed traverse measurements, traverse adjustments, data collection, rectangular coordinate use, land area computation, public land subdivision, land descriptions, horizontal circular curve field layout/computation, and computer applications. (Prerequisite: 10-607-127, Pubic Works Construction)

10-607-134 SURVEYING DRAFTING ...survey tie drafting, survey map plat drawing, certified survey map drawing, subdivision/preliminary plat drawing, and basic use of AutoCAD and SOKKIA software in map preparation drawings. (Prerequisite: 10-607-131, Surveying 2)

10-607-135 STATICS AND STRENGTH MATERIALS-CIVIL ...force analysis, moments, resultant and equilibriant forces; coplanar, concurrent, and nonconcurrent systems; static friction; basic relationships of stress and strain under axial, torsional, and bending loads; properties of construction materials. (Prerequisite: 10-804-132, Geometry-Analytic)

10-607-147 WATER TECHNOLOGY ...hydraulics, closed piping systems, open channel flow, sanitary/storm sewer systems, wastewater, hydrology, and water supply. (Prerequisites: 10-804-131, Algebra-Intermediate; 10-806-150, Physics 1-Tech)

10-607-150 LAND SURVEYING LAW ...history of property law, laws of evidence, unwritten rights, adverse possession, research and planning for a boundary survey, apportionment for land and water boundaries, and ethics of a land surveyor. (Prerequisite: 10-607-134, Surveying-Drafting)

10-607-151 HIGHWAY SURVEYING TECHNOLOGY ...vertical curves, road design, volume calculations, site planning, astronomical observations, and construction staking.

10-607-152 CONSTRUCTION METHODS AND BUILDING SYSTEMS ...building components, construction methods, construction materials, plans, specifications, and print reading. (Prerequisites: 10-607-111, Cemented Aggregate Mixtures; 10-607-127, Public Works Construction)

10-607-153 GLOBAL POSITIONING SYSTEMS ...introduction and history of GPS; latitude, longitude, and state plane coordinate systems; static, rapid static, and kinematic positioning systems.

10-607-190 CIVIL ENGINEERING INTERNSHIP ...the application of theory, skills, and techniques in the civil engineering profession.

Corrections Science Program Code 105042

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Students relate theory to current practice trends, problems, and issues. Criminal justice students study correctional counseling, sociology, and security.

Graduates of the Corrections Science Program will be able to:
- Analyze security procedures.
- Exercise interviewing techniques.
- Examine the state and federal court structure.
- Apply restraints.
- Outline the juvenile and adult criminal justice system.
- Prepare reports.
- Interpret correctional law.
- Summarize probation and parole procedures.
- Demonstrate oral communication skills.
- Compare numerous theories of criminal behavior.
- Contrast various components of the criminal justice system.
- Distinguish numerous functions of community corrections.
- Identify the components that comprise corrections.
- Summarize the administrative and managerial functions within the correctional system.
- Be eligible to become a state certified juvenile detention officer.
- Be eligible to become a state certified jail officer.
- Apply basic math skills.
- Demonstrate keyboarding and computer skills.
- Employ telecommunicator skills (dispatching).
- STUDENTS SEEKING CERTIFICATION CAN ALSO:
    Apply principles of subject control.
    Implement jail fire safety.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
- Good writing and communication skills
- Strong organizational skills

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Correctional Officer, Youth Care Worker, and Detention Worker

CORRECTIONAL OFFICER: monitors, supervises, and informally counsels inmates under his/her control; works cooperatively with other correctional staff; maintains order within the facility; enforces rules and regulations; searches inmates for contraband items such as weapons or drugs; transports inmates; mediates disputes between inmates; enforces discipline; and reports verbally and in writing about inmate conduct and the quality and quantity of work done by inmates.

YOUTH CARE WORKER: monitors the whereabouts and activities of clients under his/her responsibility, informally counsels, and guides proper personality development of clients.

DETENTION WORKER: oversees and monitors juveniles within a secure detention facility, maintains order within the setting, cooperates with staff and law enforcement personnel, is responsible for oral and written communications with a variety of agencies, and is knowledgeable about federal and state laws concerning juvenile rights.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Adult/Juvenile Administrator
- Institutional Case Worker/Social Worker
- Probation/Parole Agent
- Youth Counselor/Case Aide
- Youth Detention Home Supervisor

NOTE: Students should be aware that a previous criminal record will limit their opportunity to gain successful entry-level employment.

CURRICULUM

The Corrections Science Associate Degree is a two-year, four-semester program. Upon graduation a student will have completed 65 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-106-145	Keyboarding	1
10-504-116	Criminal Justice-Intro	3
10-504-122	Correctional Admin	3
10-504-155	Corrections-Community	3
10-801-196	Oral/Interpers Communication	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	16

SECOND SEMESTER

10-504-123	Correctional Inst	3
10-504-133	Correctional Sociology	3
10-504-172	Criminology	3
10-801-195	Communication-Written	3
10-804-152	Math-Protective Services	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	18

THIRD SEMESTER

10-103-102	Microsoft Off-Word/Access	2
10-504-131	Criminal Justice Interviews	3
10-504-132	Courts/Jurisdiction	3
10-801-170	Writing-Protective Services	2
10-801-198	Speech	3
	Elective	3
	SEMESTER TOTAL	16

FOURTH SEMESTER

10-504-145	Corrections Law	3
10-504-146	Probation/Parole	3
10-504-147	Correctional Security	3
10-504-154	Youth-Chng Community	3
	Elective	3
	SEMESTER TOTAL	15

SUGGESTED ELECTIVES: Narcotics and Vice Investigation (10-504-151), Scientific Crime Laboratory (10-504-143), and Corrections Internship (10-504-176).

Electives required for State certification are: Principles of Subject Control (POSC) Training (10-504-178) and Jail Health Care & Fire Safety (10-504-179).

A student must successfully complete 15 credits from the program before he/she is eligible to take the following certification requirement courses: Principles of Subject Control (10-504-178) and Jail Health Care & Fire Safety (10-504-179).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-504-122 CORRECTIONALADMINISTRATION ...chain of command, roles of the correctional supervisor, administrative structures, current management practices and problems, personnel needs, organizational theories, mission goals, policy making, inmate discipline, and report writing.

10-504-123 CORRECTIONALINSTITUTION ...the evolution of punishment, development of prisons, southern penal systems, the "Big House" era, prisoner movement, inmate groups, special offender groups, the female offender, prison programs, prison services.

10-504-131 CRIMINALJUSTICE INTERVIEWS ...process of criminal justice interviewing using basic skills model; use of nonverbal and verbal communication; security admissible confessions that preserve indiviual's constitutional rights; ethics in criminal justice interviewing.

10-504-132 COURTS/JURISDICTIONS ...development of the American judicial system, the Federal and Wisconsin court structure, Wisconsin judicial rules and procedures from complaint to sentencing as they impact police or correctional officers.

10-504-133 CORRECTIONALSOCIOLOGY ...inmate adjustment process, informal organizations, responsibilities of a correctional officer, adult/juvenile admission processes, supervision of "special" inmates, suicide prevention, juvenile detention operations, juvenile release processes, and stress.

10-504-145 CORRECTIONS LAW ...laws, rules, and standards affecting jails, Federal and State Court systems, criminal and civil actions, criminal sentences, plea bargaining, community-based sanctions, sentencing statutes and guidelines, prisoner rights, and inmate litigation.

10-504-146 PROBATION/PAROLE ...criminal justice system, probation and parole, types of offenses, sentencing process, presentence investigation, revocation procedures, alternatives to incarceration, parole board functions, Parole Officer responsibilities, and guidelines for releasing inmates.

10-504-147 CORRECTIONAL SECURITY ...inmate security control, inspections, movements, counts; resident protection, privacy, safety, searches, contraband, restraints, equipment; building security; detection devices; legal aspects; personnel protection; building clearing; hostage negotiations; and pad subduing techniques.

10-504-154 YOUTH-CHANGING COMMUNITY ...juvenile delinquency; historical development controlling children, gangs, family, endangered children; legal requirements of handling juveniles; discipline of juveniles; supervision of juveniles; and community-based programs.

10-504-155 CORRECTIONS-COMMUNITY ...criminal justice system stages, community-based corrections, diversion programs, pre-trial release programs, restitution, community service, temporary release programs, halfway houses, female offenders, drug and alcohol abusing offenders, and juvenile programs.

10-504-172 CRIMINOLOGY ...nature, extent, and distribution of crime in the United States; biological, psychological, and sociological aspects of crime causation; and legal and political implications of crime prevention and control.

Dental Assistant Program Code 315081

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Dental Assistant Program trains students to prepare patients for treatment, sterilize instruments, and assist the dentist at chairside.

Graduates of the Dental Assistant program will be technically proficient and able to:
- Assist with chairside procedures.
- Manipulate dental materials.
- Perform laboratory duties.
- Execute infection control/universal precaution techniques.
- Prepare to treat various dental patients.
- Perform Radiographic/Imaging Techniques/ Processing.
- Maintain inventory.
- Perform receptionist/front office duties.
- Maintain dental equipment.

Students will be required to purchase personal protection equipment/ clothes, pay for liability insurance for dental clinical experience courses, provide their own transportation to the dental office, and attend a two-day dental convention in Chicago or Milwaukee.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- An acceptable level on required entrance tests
- High school diploma or equivalency or youth option student
- One semester of typing/keyboarding skills
- Medical and dental examinations satisfactorily completed before entering the program
- A science background with emphasis in Advanced Biology and Anatomy and Physiology is desirable

Students are required to complete an American Heart Association Health Care Provider CPR Course prior to the first Clinical Experience.

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Chairside Assistant, Claims Approver, Dental Laboratory Assistant, Office Assistant, or Sales Representative/Distributor.

CHAIRSIDE ASSISTANT: prepares patients for treatments; assists the dentist in chairside duties; exposes and processes radiographs; performs laboratory procedures in general dental offices or offices that specialize in areas such as orthodontics, endodontics, prosthodontics, oral surgery, pediatrics, periodontics, or restorative and cosmetic dentistry.

CLAIMS APPROVER: processes dental insurance claims using a computer terminal.

DENTAL LABORATORY ASSISTANT: performs laboratory procedures.

OFFICE ASSISTANT: makes patient appointments; handles telephone calls, correspondence, and records; keeps the books; maintains and operates office machines; and orders supplies.

SALES REPRESENTATIVE/DISTRIBUTOR: sells dental products and supplies.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Dental Office Manager
- Dental Laboratory Technician

SCHOLARSHIPS: The Brown-Door-Kewaunee Dental Society, the Northeast Wisconsin Dental Assistant Association, and the NWTC Dental Assistant Program offer four scholarships: (2) $500.00, (1) $225.00, and (1) $150.00, to students in the Dental Assistant program. Criteria include financial need, grade point average, and attendance. NWTC also has other scholarships available to students.

CURRICULUM

The Dental Assistant Technical Diploma is a one-year, three-semester program. Upon graduation a student will have completed 31 credits.

INTRODUCTORY SEMESTER

Course No.	Description	Credits
31-508-309	Dental/Pers Relationship	1
31-508-325	DA-Clinical Infection Control	1
	SEMESTER TOTAL	**2**

FIRST SEMESTER

Course No.	Description	Credits
31-508-310	Dental Science-Biomedical	2
31-508-311	Dental Asst 1-Chairside	4
31-508-312	Dental Materials	4
31-508-313	Radiography 1-Dental Asst	2
31-508-318	Dental Clinic Exp 1	2
31-508-328	Dental Office Med Emergency	1
	SEMESTER TOTAL	**15**

SECOND SEMESTER

Course No.	Description	Credits
31-105-303	Dental Office Mgmt	1
31-508-322	Dental Clinic Exp 2	2
31-508-324	Dental Lab Procedures	3
31-508-326	Dental Asst 2-Chairside	4
31-508-329	Radiography 2-Dental Asst	2
	SEMESTER TOTAL	**12**

Course No.	Description	Credits
* 31-801-385	Communicating-Writing	1
* 31-801-386	Communicating-Interpers	1
	TOTAL	**2**

*May be taken at any time prior to graduation.

NOTE: Students must have a C average to graduate from the Dental Assistant Program. Students who do not meet this requirement would have to repeat courses with a below C grade to graduate.

CERTIFICATION: Graduates of the program are eligible to take the national certification offered by the Dental Assisting National Board (DANB), 676 N. St. Clair Street, Suite 1880, Chicago, IL 60611, (312) 642-3368. The Dental Assistant program is accredited by the:

American Dental Association-Commission on Dental Accreditation
211 East Chicago Avenue
Chicago, IL 60611-2678
(312) 440-2500

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-105-303 DENTAL OFFICE MANAGEMENT ...uses of a dental computer program, appointment control, records management, recall programs, fees, payment plans, collections, and insurance. (Satisfactory completion of Sem 1)

31-508-309 DENTAL/PERSONALRELATIONSHIPS ...history, the dental team, ethics, jurisprudence, risk management, nutrition, and personal improvement; psychology of management skills; and the importance of working as a team. (Prerequisite: Accepted into Dental Assistant Program)

31-508-310 DENTAL SCIENCE-BIOMEDICAL ...immunology, oral embryology, various pathogenic and nonpathogenic micro-organisms, and oral pathology.

31-508-311 DENTALASSISTANT 1-CHAIRSIDE ...dental office components, infection control procedures, instruments transfer, oral evacuation, 4/6 handed dentistry, instrument identification, tray set-ups, oral health, dental dam application, rotary and handpiece identification. (Prerequisite: 31-508-325, DAClinical Infection Control), (Corequisites: 31-508-312and 31-508-313)

31-508-312 DENTAL MATERIALS ...dental material properties, lab infection control and hazardous material handling, impression materials, care of lab and operating equipment, gypsum products, restorative and preventive materials, and tray set-ups. (Prerequisite: 31-508-325, DAClinical Infection Control), (Corequisites: 31-508-311 and 31-508-313)

31-508-313 RADIOGRAPHY1-DENTAL ASSISTANT ...introduction to exposing, processing, mounting, and evaluation of radiographs, darkroom maintenance and radiation protection and safety. Course also includes charting, oral and dental anatomy, morphology, embryology, and histology. (Prerequisite: 31-508-325, DAClinical Infection Control) (Corequisite: 31-508-311 and 31-508-312)

31-508-318 DENTAL CLINICAL EXPERIENCE 1 ...practical experience in patient relations, chairside skills, dental materials and limited radiography in various dental offices and the on-campus clinic. (Prerequisite: Completion of Introductory semester; completion of American Heart Association Health Care Provider CPR course), (Corequisites or completion of: 31-508-310, 31-508-311, 31-508-312, and 31-508-313)

31-508-322 DENTAL CLINICAL EXPERIENCE 2 ...advanced practical experience in patient relations, chairside skills, laboratory procedures, radiography, dental materials, specialties, emergency procedures, and business office operations in the dental office and the on-campus clinic. (Prerequisite: 31-508-318, Dental Clinical Experience 1) (Corequisites or completion of: 31-508-324, 31-508-326, and 31-508-329)

31-508-324 DENTAL LABORATORY PROCEDURES ...taking and pouring of impressions, model trimming, denture and crown/bridge prosthesis, construction of acrylic trays, temporary restorations, mouth guards and bleaching trays, impressions materials and waxes, and surgical dressings. (Prerequisite: Satisfactory completion of first semester) (Corequisites: 31-508-326 and 31-508-329)

31-508-325 DENTALASST-CLINICAL INFECTION CONTROL/SAFETYCOMPLIANCE ...disease transmission, hazard communication management, disinfection/treatment room and sterilization/instrument care. (Prerequisite: Accepted into Dental Assistant Program)

31-508-326 DENTALASSISTANT 2-CHAIRSIDE ...occupational health and safety, management and maintenance of dental office and inventory, coronal polishing, fluoride application, prevention and operative dentistry, periodontics, oral surgery, orthodontics, pediatrics, and special patients. (Prerequisite: Satisfactory completion of first semester) (Corequisite: 31-508-324 and 31-508-329)

31-508-328 DENTAL OFFICE MEDICAL EMERGENCIES ...prevention, recognition and treatment of medical emergencies in the dental office as well as patient health history, vitals, airways, resuscitation equipment, emergency kits, and an overview of pharmacology. (Prerequisite: completion of American Heart Association Health Care Provider CPR course)

31-508-329 RADIOGRAPHY2-DENTALASST ...radiation theory, safety procedures, dental exposure techniques, evaluation techniques, and clinical application. (Prerequisite: Satisfactory completion of first semester) (Corequisites: 31-508-324 and 31-508-326)

Descriptions of courses not found on this page can be found in the back of the catalog.

Dental Hygienist   Program Code 105081

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Dental Hygienist program prepares students to perform oral prophylaxis, apply preventive agents, expose radiographs, and teach patients oral care. Graduates of the Dental Hygienist program will be able to:

- Discern and manage the ethical issues of dental hygiene practice.
- Acquire and synthesize information in a critical, scientific, and effective manner.
- Provide planned educational services using appropriate interpersonal communication skills and educational strategies.
- Initiate and assume responsibility for health promotion and disease prevention activities for diverse populations.
- Systematically collect, analyze, & accurately record baseline data on the general, oral, and psychosocial health status of clients.
- Discuss condition of oral cavity, identify actual and potential problems, etiological and contributing factors and record alternative treatment.
- Provide treatment that includes preventive and therapeutic service designed to promote and maintain oral health and assist client in achieving goals.
- Evaluate effectiveness of planned clinical and educational services and modify as necessary.

Students will be required to purchase uniforms and instruments and pay for liability insurance for dental clinical courses.

READING LEVEL

Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills and Accuplacer tests for Algebra. For a description of basic math, see the Basic Education section of this catalog.

NOTE: A student who does not meet the above requirements should consult an NWTC counselor about ways to make up any deficiencies through testing or course work. Advance Standing Test Out is available in Radiography and Dental Materials.

EMPLOYMENT POTENTIAL

Prior to licensure as a Registered Dental Hygienist, a student is required to pass the Dental Hygiene National Board Examination and a Regional Practical Examination. A Registered Dental Hygienist may practice dental hygiene in a city, county, or multi-county health department; private practice, hospital, long term care facility, or school; or in dental sales.

With additional education and/or work experience, graduates may find other opportunities for employment.

- Dental Hygiene Instructor
- Public Health Dental Hygienist
- Dental Laboratory Technician
- Dental Sales

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students.
Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
- A minimum standard composite score of 20 on the ACT assessment
- One year of biology
- One year of chemistry taken within the last five years
- Grades of C or better in the science courses
- One year of algebra and advanced math or an 80% satisfactory score on the NWTC mathematics placement test
- Orientation before entering the program
- Medical and dental examinations satisfactorily completed within three months before entering the program
- Complete an American Heart Association Health Care Provider CPR course prior to program entry; maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.
- One semester of general nutrition.

Applications will be processed when requirements have been completed.

The Dental Hygienist program is accredited by the American Dental Association - Commission on Dental Accreditation
211 East Chicago Avenue
Chicago, IL60611-2678
(312)440-2500

CURRICULUM

The Dental Hygienist Associate Degree is a two-year, one-summer, five-semester program. Upon graduation a student will have completed 71 credits.

SUMMER SEMESTER

Course No.	Description	Credits
* 10-806-163	Chemistry-Bioorganic	3
* 10-806-182	Anatomy/Physiology 1	3
	SEMESTER TOTAL	**6**

FIRST SEMESTER

* 10-508-114	Dental Hygiene-Pre Clin	2
* 10-508-115	Dental Hygiene-Pre Clin/Lec	2
* 10-508-116	Histology/Embryology	1
* 10-508-117	Occupational Safety/Health	1
* 10-508-118	Anatomy-Head/Neck	3
* 10-806-183	Microbiology	4
* 10-806-187	Anatomy/Physiology 2	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER

* 10-508-112	Radiography	3
* 10-508-113	Periodontology 1	1
* 10-508-120	Dental Hygiene 1-Clinic	2
* 10-508-121	Dental Materials	2
* 10-508-124	Dental Hygiene 1-Clinic/Lec	2
* 10-508-132	Pathology-General Oral	3
10-801-195	Communication-Written	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER

* 10-508-123	Periodontology 2	2
* 10-508-134	Dental Hygiene 2-Clinic	3
* 10-508-136	Dental Hygiene 2-Clinic/Lec	1
* 10-508-142	Dental Health-Community	2
10-801-196	Oral/Interpers Communication	3
* 10-806-185	Pharmacology	2
	Elective	3
	SEMESTER TOTAL	**16**

FOURTH SEMESTER

* 10-508-144	Dental Hygiene 3-Clinic	3
* 10-508-146	Dental Hygiene 3-Lecture	2
10-801-198	Speech	3
10-809-196	Sociology-Intro	3
10-809-198	Psychology-Intro	3
	Elective	3
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES:

Clinical-Extended (10-508-150);
Periodontal Theories-Advanced (10-508-160);
Dental Hygiene National Board (10-508-172).

NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program. If the course is segmented, the successful retake must occur before continuing the sequence.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-508-112 RADIOGRAPHY ...radiographic techniques; principles of radiography with emphasis on radiation safety, radiobiology, darkroom techniques, anatomical landmarks, radiographic interpretation.

10-508-113 PERIODONTOLOGY 1 ...anatomy, histology, physiology of the alveolar bone; periodontal ligament, gingiva, cementum; and evaluation of the periodontium in healthy and diseased state.

10-508-114 DENTALHYGIENE-PRE CLINIC/LAB ...personal oral hygiene, operation and maintenance of dental equipment, infection control techniques, assessment of medical records, oral examination, instrumentation, polishing, and instrument sharpening.

10-508-115 DENTALHYGIENE-PRE CLINIC/ LECTURE ...professional ethics, personal oral hygiene, operation and maintenance of dental equipment, infection control, medical records, oral examination, instrumentation, polishing, and instrument sharpening.

10-508-116 HISTOLOGY/EMBRYOLOGY ...basic cell structures; embryologic development of the face and oral cavity; formation of teeth; bone eruption and exfoliation of teeth.

10-508-117 OCCUPATIONALSAFETY/HEALTH ...prevention, recognition, and response to medical emergencies; occupational health and safety in accordance with OSHAmandates and CDC guidelines; epidemiology; prevention of transmissible diseases; and chemical hazard communication.

10-508-118 ANATOMY-HEAD/NECK ...dental terminology; tooth development, function, and form; permanent and primary dentitions-individual tooth characteristics; occlusal classification; periodontuim; oral cavity structure; musculature of the head and neck; bones of the skull; blood, nerve supply, and lymphatic system for the head and neck; dental charting

10-508-120 DENTALHYGIENE 1-CLINIC ...application and practice of exposure control; hazard communication; dental examinations; dental hygiene assessments; treatment planning, interventions, evaluations, and medical emergencies in the clinical setting. (Prerequisite: 10-508-114, Dental Hygiene-Pre Clinical)

10-508-121 DENTALMATERIALS ...sources, properties, application, and manipulation techniques of dental materials; emphasis on characteristics of dental materials and their impact within the oral environment. (Prerequisite: 10-508-114, Dental Hygiene-Pre Clinical)

10-508-123 PERIODONTOLOGY 2 ...examination, planning, implementation, and evaluation of client periodontal status; approach to therapy, maintenance, and epidemiology of periodontal disease; emphasis on the relationship of periodontics to the practice of dental hygiene. (Prerequisite: 10-508-113, Peridontology 1)

10-508-124 DENTALHYGIENE 1-CLINIC/ LECTURE ...treatment planning, caries process, fluoride therapy, sonic/ultrasonic scaling, oral health maintenance and disease control, air-brasive polishing, tooth hypersensitivity, pedodontic dental care, and dental hygiene history. (Prerequisite: 10-508-114, Dental Hygiene-Pre Clinical)

10-508-132 PATHOLOGY-GENERAL ORAL ...nature of disease, variants of normal; inflammation; immunity, regeneration, and repair; developmental disorders; cysts, neoplasia, genetic disorders; and oral manifestations of systemic diseases. (Corequisite: 10-508-120, Dental Hygiene 1-Clinical)

10-508-134 DENTALHYGIENE 2-CLINIC ...application of assessments, treatment, and prevention planning; advanced clinical skills including root surface debridement, ultrasonic scaling, and radiographic techniques; patient counseling techniques; special needs patients. (Prerequisite: 10-508-120, Dental Hygiene 1-Clinical)

10-508-136 DENTAL HYGIENE 2-CLINIC/ LECTURE ...theory of establishing patient relationships, patient counseling techniques, patient compliance, behavioral change strategies, designing a personalized prevention plan, smoking cessation, dental hygiene care for special needs patients. (Prerequisite: 10-508-113, Peridontology 1)

10-508-142 DENTAL HEALTH-COMMUNITY ...principles of public health dentistry relevant to current issues; student participation in assessment, planning, implementation, and appraisal of community dental health programs. (Prerequisite: 10-508-120, Dental Hygiene 1-Clinical)

10-508-144 DENTAL HYGIENE 3-CLINIC ...advanced instrumentation, root planing skills, use of oral irrigation devices, preparation for the CRDTS Practical Exam. (Prerequisite: 10-508-134, Dental Hygiene 2-Clinical)

10-508-146 DENTAL HYGIENE 3-LECTURE ...local anesthesia, dental specialties, legal relationships in dental hygiene practice, interview techniques, preparation for State Certification Exam, temporomandibular dysfunction, implant client, modified ultrasonics. geriatric dental hygiene. (Prerequisite: 10-508-134, Dental Hygiene 2-Clinical)

Descriptions of courses not found on this page can be found in the back of the catalog.

Diesel and Heavy Equipment Technician Program Code 324121

TECHNICAL DIPLOMA - TWO YEARS

Offered at the Sturgeon Bay campus. Admissions, registration, counselor, or course information: (920) 743-2207, Toll free: (800) 422-NWTC, Ext. 4900.

PROGRAM DESCRIPTION

Prepares students to service and repair diesel powered equipment. Instruction covers repair of steering, brakes, hydraulic systems, and chassis components.

Graduates of this program will be able to:
- Apply hydraulic systems fundamentals.
- Manage chassis, steering, and suspension systems.
- Explain diesel engine systems.
- Explain diesel engine fundamentals.
- Describe the mechanics of track drive systems.
- Perform required preventive maintenance.
- Use welding and machine tools.
- Maintain brake systems.
- Analyze electronic/electrical systems.
- Manage heating - A/C systems.
- Comprehend power train systems.
- Interpret schematic drawings.
- Diagnose engine systems.
- Service vehicle systems.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within program has an average reading level of 11th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

The Diesel and Heavy Equipment Technician is employed in a variety of work environments. These include heavy equipment, truck, agriculture, marine, engine rebuilding, and speciality shops.

A graduate of the program will have the potential for employment as Construction Equipment Technician, Engine Technician, Farm Equipment Technician, Fuel Injection Technician, Service Technician, or Truck Driver/Diesel Technician.

CONSTRUCTION EQUIPMENT TECHNICIAN: diagnoses, services, and repairs a variety of construction equipment such as track type tractors, wheel loaders, and back hoe loaders.

ENGINE TECHNICIAN: diagnoses and repairs diesel engines.

FARM EQUIPMENT TECHNICIAN: diagnoses, services, and repairs a variety of diesel-powered agricultural equipment.

FUELINJECTION TECHNICIAN: diagnoses, services, and repairs fuel injection systems.

SERVICE TECHNICIAN: performs preventive maintenance and regularly scheduled maintenance on equipment to keep it in service.

TRUCK DRIVER/DIESELTECHNICIAN: owns or operates a small fleet and wants to perform his/her own regular and preventive maintenance.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Diesel Equipment Mechanic Instructor
- Diesel Shop Owner
- Sales Representative
- Shop Supervisor
- Technical Service Representative
- Truck Fleet Operator

CURRICULUM

The Diesel and Heavy Equipment Technician Technical Diploma is a two-year, four-semester program offered at the Sturgeon Bay campus. Upon graduation students will have completed 64 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-804-301	Math 1-Trades	2
32-107-351	Pc Operations-Intro	1
32-412-300	Diesel-Lab Operations	1
32-412-310	Diesel Engine Fundamentals	6
32-412-311	Diesel-Elect Fundamentals	4
32-442-352	Welding-Metal Working Proc	2
	SEMESTER TOTAL	**16**

SECOND SEMESTER

32-412-320	Diesel-Chassis/Susp/Steer	4
32-412-321	Diesel-Brake Systems	3
32-412-322	Diesel Preventive Maint	4
32-412-323	Diesel-Elect Systems	3
32-806-353	Science-Mechanics	2
	SEMESTER TOTAL	**16**

THIRD SEMESTER

31-419-311	Hydraulics-Applied	2
32-412-324	Diesel-Electric Eng System	1
32-412-334	Diesel Engine Systems	4
32-412-336	Diesel-Mobile Hydraulic Sys	2
32-412-337	Diesel-Schematic Interpret	2
32-412-338	Diesel-Track Drive Systems	2
32-412-342	Diesel Equip Service/Maint	3
	SEMESTER TOTAL	**16**

FOURTH SEMESTER

31-801-385	Communicating-Writing	1
31-801-386	Communicating-Interpers	1
31-809-301	Social Science Survey	2
32-412-340	Diesel Engine Troubleshoot	4
32-412-341	Diesel-Power Trains	5
32-412-345	Diesel-Refrig/Ac	3
	SEMESTER TOTAL	**16**

NOTE: The Caterpillar Foundation selected this technical program for participation in its Dealer Excellence Fund. Funds from Caterpillar and a matching grant from FABCO Equipment are used for student scholarships, staff development, curriculum development, and instructional equipment.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-419-311 HYDRAULICS-APPLIED ...hydraulic schematics, drive systems, hydraulic system diagnosis/troubleshooting, hydraulic circuits, piping, fluid mechanics, seals, packings, hydraulic component operation, and accumulators.

32-412-300 DIESEL-LAB OPERATIONS ...diesel shop safety, basic equipment operation, rigging and lifting, hand and precision tools, fasteners.

32-412-310 DIESELENGINE FUNDAMENTALS ...diesel engine theory, service tools, engine overhaul, lubrication, cooling intake and exhaust systems, bearings and seals, fuel systems, and engine trouble-shooting. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-311 DIESELELECTRICAL/ELECTRONIC FUNDAMENTALS ...electrical theory , electronic components, safety, storage batteries, charging circuits, and starting circuits. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-320 DIESEL-CHASSIS/SUSPENSION/ STEERING ...vehicular steering systems, heavy-duty axles, suspension systems, wheels and tires, coupling systems. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-321 DIESEL-BRAKE SYSTEMS ...braking systems, drum brake principles, disc brakes, foundation brake systems, air brakes, anti-lock systems. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-322 DIESELPREVENTIVE MAINTENANCE ...safety terms, maintenance, inspection, lubricants, clutch, brakes, wheels and rims, steering, suspension, electrical, air system, and hydraulic system. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-323 DIESEL-ELECTRICAL/ELECTRONIC SYSTEMS ...safety, electronic terms, electronic components, and general electronic system diagnostics. (Prerequisites: 32-412-311, Diesel-Elect Fundamentals).

32-412-324 DIESEL-ELECTRIC ENGINE SYSTEM ...engine, drive train, chassis, and cab computer systems software.

32-412-334 DIESELENGINE SYSTEMS ...shop safety, fuel system components, governors, nozzles, American Bosch systems, Robert Bosch systems, Lucas systems, Stanadyne systems, Cummins systems, Detroit diesel systems, Caterpillar systems, and testing methods. (Prerequisite: 32-412-310, Diesel Engine Fundamentals)

32-412-336 DIESEL-MOBILE HYDRAULIC SYSTEMS ...mobile hydraulics system components safety, principles of operation, diagnosis, and service. (Corequisite: 31-419-311, Applied Hydraulics)

32-412-337 DIESEL-SCHEMATIC INTERPRETATION APPLICATION ...electronic/hydraulic schematics, applications of schematics, system similarities, components, review of systems operation, practical applications in diagnosing system problems, use of special test equipment/schematics to solve problems. (Prerequisite: 32-412-323, Diesel Electrical/Electronic)

32-412-338 DIESEL-TRACK DRIVE SYSTEMS ...track shop safety, track drive component parts, system operation, inspection, system diagnoses, system repair, system service, and system maintenance. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-340 DIESELENGINE TROUBLESHOOTING ...diesel engine troubleshooting steps, major check points when inspecting or operating a diesel engine, causes of poor engine performance and failure, perform engine diagnostic tests, dyno test an engine. (Prerequisite: 32-412-310, Diesel Engine Fundamentals)

32-412-341 DIESEL-POWER TRAINS ...safety, power train components, coupling systems, hydraulic retarders, mechanical transmissions, drive shafts, final drives, gear reduction boxes, planetary gear sets, chain-type final drive, belt drive systems. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-342 DIESELEQUIPMENT SERVICE/ MAINTENANCE ...shop safety; service manuals; preventive maintenance forms; federal inspection policy; preventive maintenance for trucks, trailers, engine brakes/retarders, construction, and agricultural equipment; and electronic trouble shooting trees. (Corequisite: 32-412-300, Diesel-Lab Operations)

32-412-345 DIESEL-REFRIGERATION/AIR CONDITIONING ...safety; basics of air conditioning; refrigerants and oil; basic system and its functions; environmental safety practices; inspection, diagnosing, and using service tools. (Corequisite: 32-412-300, Diesel-Lab Operations)

Dietary Manager

Program Code 303129

TECHNICAL DIPLOMA - ONE YEAR (with multiple entry points) FOR INDIVIDUALS EMPLOYED IN HEALTH CARE FOOD SERVICE

Part time for individuals employed in health care food service offered at the Green Bay campus, and available through the WTCN Network at Nicolet Area Technical College, Fox Valley Technical College, and Moraine Park Technical College. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Dietary Manager program prepares students to become competent food service/dietary managers for health care and other institutional facilities.

Graduates of the Dietary Manager program will be able to:
- Be employed as a Dietary Manager or in a food service setting.
- Analyze food service management procedures.
- Demonstrate principles of personnel supervision.
- Plan for nutritional care of patient/resident.
- Demonstrate safety and sanitation procedures for food services.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Complete program application
- High school diploma or equivalent
- Verification of employment in health care food service/ other institutional facility
- Verification of institutional employer participation in preceptorship

READING LEVEL

Textbook readability within this program has an average level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills before entering this program. For a description of basic math, see the Basic Education section of this catalog.

WTCN Shared Program with Fox Valley Technical College, Nicolet Area Technical College, and Moraine Park Technical College.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a dietary manager or food service supervisor in hospitals, long-term care facilities, school food service, retirement homes, and similar food service operations.

DIETARY MANAGER/FOOD SERVICE SUPERVISOR: supervises food service personnel; food procurement, production, service, and storage; monitors business operations related to food service department; interprets nutritional information; plans and modifies general menus; assesses nutritional needs and care plans; utilizes services of a dietitian (consultant) as required for the development of therapeutic special diets, menus, and follow-through on patient nutritional needs.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Certified Dietary Manager
- Dietetic Technician

CURRICULUM

The Dietary Manager Technical Diploma Program is a one-year program that includes five one-credit courses of 120 hours in conjunction with 36 weeks of related on-the job experience, including 150 hours of clinical field experience directly related to course content and learning activities.

Course No.	Description	Credits
30-312-301	First 10 week session (September) Dietary Manager-Personnel	1
30-312-303	Second 10 week session(December) Dietary Manager-Nutrition Care	1
30-312-302	Third 10 week session (March) Dietary Manager-Food Management	1
30-312-304	Dietary Manager (Sept. thru Jan.) Field Experience 1	1
30-312-305	Dietary Manager (Feb. thru May) Field Experience 2	1
	CREDITS	**5**

CERTIFICATION: Completion of the program qualifies students to sit for the examination by the Dietary Manager Association to become a Certified Dietary Manager. The Dietary Manager Program is a part of the statewide curriculum administered by Milwaukee Area Technical College and accredited by the:

Dietary Managers Association
406 Surrey Woods Drive
St. Charles, IL 60174
(800)323-1908
www.dmaonline.org

This program is not eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-312-301 DIETARY MANAGER-PERSONNEL SUPERVISION ...procurement, production, storage of food supplies, hiring and supervising personnel, employment laws, evaluating employees, and discipline practices.

30-312-302 DIETARY MANAGER-FOOD SERVICE MANAGEMENT ...food service safety/sanitation, HACCPmonitoring business operations communication, training, and employee motivation, coordinating department services and professional development and marketing department SVC.

30-312-303 DIETARY MANAGER-NUTRITION CARE ...interpreting nutritional information, calculating nutritional in-take, planning and modifying general menus, charting in medical records, careplanning, and applying proper nutritional care based on disease status.

30-312-304 DIETARY MANAGER-FIELD EXPERIENCE 1 ...job responsibilities and assignments of the Dietary Manager including nutritional care and therapy, personnel supervision, nutritional assessment, and the management of food service, under the direction of a preceptor.

30-312-305 DIETARY MANAGER-FIELD EXPERIENCE 2 ...extended job responsibilities and assignments including nutritional care and therapy; personnel supervision, and nutritional assessment; and the management of food service under the direction of a preceptor.

Electrical Power Distribution Program Code 314132

TECHNICAL DIPLOMA - ONE YEAR (Begins in June)

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Electrical Power Distribution prepares students to install, maintain, and operate electrical systems to supply electric energy to residential, commercial, industrial customers, and joint gas and electric underground generation facilities.

Graduates of the Electrical Power Distribution Program will be able to:
- Construct electric transmission systems.
- Relate electrical theory to electric power systems.
- Work comfortably at heights.
- Climb poles and towers.
- Identify sub-station components.
- Install underground electric systems
- Operate Electrical Power Distribution equipment.
- Troubleshoot power distribution and transmission systems.
- Communicate technical information.
- Construct power distribution systems
- Identify methods of electrical generation.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- Be able to obtain a commercial driver's license
- Place satisfactorily in the NWTC mathematics examination

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Line Technician, Lead Line Technician, Line Technician Supervisor, Cable TV Line Technician, Telephone Line Technician, Technician in an Electricity Generating Plant, or Installer/Maintainer of Underground Systems. Graduates in those jobs will perform construction, operations, and maintenance work on the electric power system and equipment.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Line Coordinator
- Line Apprentice
- Safety Advisor

CURRICULUM

The Electrical Power Distribution Technical Diploma is a one-year, three-semester program. Upon graduation, a student will have completed 32 credits.

FIRST SEMESTER (SUMMER)

Course No.	Description	Credits
31-413-330	Line Elec Field Trng 1	5
31-413-353	Electricity-Basic	1
31-413-362	Line Elec-Safety 1	1
31-804-310	Algebra-Trades	2
	SEMESTER TOTAL	**9**

SECOND SEMESTER

31-413-331	Line Elec Field Trng 2	10
31-413-335	Line Elec-Const Standards	1
31-413-355	Electricity-Linepersons	2
31-413-364	Line Elec-Safety 2	1
31-804-385	Math-Computer Appl	2
	SEMESTER TOTAL	**16**

THIRD SEMESTER

31-413-332	Line Elec Field Trng 3	5
31-413-361	Lineman-Safety/First Aid	1
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**7**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-413-330 LINE ELECTRICIAN FIELD TRAINING 1 ...pole climbing, care of equipment/vehicle operation, setting and removing poles/line layout, pole framing, guys and anchors, conductor string, sagging, tying/transformers, operation, application, construction/safety.

31-413-331 LINE ELECTRIC FIELD TRAINING 2 ...transformer installation, operation, maintenance; regulator, capacitor, meter, underground equipment; street lighting operation and maintenance; protective equipment use; problem-solving instrumentation, map/diagram reading, code clearance requirements; use of tree-trimming methods and tools. (Prerequisite: 31-413-330, Line Electrician Field 1)

31-413-332 LINE ELECTRICIAN FIELD TRAINING 3 ...protective grounds, transmission, substation operations and maintenance, metering tools, transmission hot stick use and safety, and stray voltage precautions. (Prerequisite: 31-413-331, Line Electrician Field 2)

31-413-335 LINE ELECTRICIAN-CONSTRUCTION STANDARDS ...distribution standards overhead, underground, primary, secondary, clearances, work practices, material and safe work practices.

31-413-353 ELECTRICITY-BASIC ...basic electricity: fundamental laws and circuit analysis. (Prerequisite: Accepted into Electrical Power Distribution)

31-413-355 ELECTRICITY-LINEPERSONS ...electric power/energy, three-phase voltage generation, three-phase circuit power, transformer operation principles, transformer connections, and safety practices in high voltage applications. (Prerequisite: 31-413-353, Electricity-Basic)

31-413-361 LINEMAN-SAFETY/FIRST AID ...substation construction and maintenance, first aid procedures, mouth-to-mouth resuscitation, safety code analysis, recordkeeping, external heart massage, and safety/accident analysis.

31-413-362 LINE ELECTRICIAN-SAFETY 1 ...general rules, definitions, applications, responsibility, reporting accidents, injuries, hand and power tools, ladders, scaffolds, handling materials, operation of company automotive equipment.

31-413-364 LINE ELECTRICIAN-SAFETY 2 ...electrical section, line clearing, right-of-way maintenance; generating stations including theory and hands-on working on overhead lines; protective equipment; underground systems; tree trimming; and substations. (Prerequisite: 31-413-362, Line Electrician-Safety 1)

Descriptions of courses not found on this page can be found in the back of the catalog.

Electricity Program Code 314131

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Electricity prepares students to install, maintain, and service electrical equipment used in residential, commercial, and industrial settings.

Graduates of the Electricity Program will be able to:
- Perform safe work practices.
- Apply National and Wisconsin State Electrical Codes to electrical installations.
- Install, maintain, and troubleshoot residential, commercial, and industrial electrical systems.
- Perform basic diagnostic testing on electrical systems.
- Apply basic calculations to electrical systems and installations.
- Demonstrate the operation of AC and DC motors.
- Install and troubleshoot basic motor control systems.
- Interpret electrical diagrams.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- Place satisfactorily in the NWTC mathematics and algebra examinations

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered high school algebra skills and have a desire to learn advanced algebra and trigonometry. For a description, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Construction Electrician, or Industrial Maintenance Electrician.

CONSTRUCTION ELECTRICIAN: installs and services conduit, wire, cable, and equipment in new and existing residential, commercial, and industrial structures.

INDUSTRIALMAINTENANCE ELECTRICIAN: installs, maintains, and troubleshoots motors, motor controls, lighting, and other electrical systems in an industrial plant.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Electrical Construction Supervisor
- Electrical Engineering Technician
- Journeylevel Electrician
- Electrical Contractor
- Electrical Maintenance Supervisor

CURRICULUM

The Electricity Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 29 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-413-314	DC Circuits	2
31-413-316	Residential Elec Code 1	1
31-413-319	Residential Wiring 1	3
31-413-324	DC Machines	2
31-413-326	Residential Elec Code 2	1
31-413-329	Residential Wiring 2	3
31-801-385	Communicating-Writing	1
31-804-311	Algebra-Electrcity	1
31-804-321	Trigonometry-Electricity	1
	SEMESTER TOTAL	**15**

SECOND SEMESTER

Course No.	Description	Credits
31-413-334	AC Circuits	2
31-413-339	Industrial Controls	3
31-413-344	AC Machines	2
31-413-346	Commercial Elec Code	1
31-413-349	Electric Motor Control	3
31-413-359	Electrical Internship	1
31-442-331	Welding-Electricity	1
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**14**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-413-314 DC CIRCUITS ...the electron theory, voltage, current, resistance, power, ohm's law, test equipment, conductors, and direct current circuits.

31-413-316 RESIDENTIALELEC CODE 1 ...general code requirements, plans and specifications, wiring methods.

31-413-319 RESIDENTIALWIRING 1 ...safety, electrical code applications, box selection, wire selection, wire terminations, single-point lighting control, multiple-point lighting control, receptacles.

31-413-324 DC MACHINES ...magnetism, electromagnetism, DC generators, DC motors, DC motor control. (Corequisites: 31-413-314, DC Circuits, 31-804-311, Algebra Electricity)

31-413-326 RESIDENTIALELECTRICAL CODE 2 ...special purpose outlets, electrical service, home automation systems. (Prerequisite: 31-413-316, Residential Electrical Code 1)

31-413-329 RESIDENTIALWIRING 2 ...layout and design, circuit determinations, cable installation, small appliance branch circuits, special purpose outlets, multi-wire circuits, low voltage wiring. (Corequisites: 31-413-319, Residential Wiring 1; 31-413-316, Residential Electrical Code 1)

31-413-334 AC CIRCUITS ...sine wave, inductance, capacitance, series circuits, parallel circuits, power factor, three-phase circuits. (Prerequisite: 31-413-314, DC circuits; 31-804-321, Trigonometry-Electricity)

31-413-339 INDUSTRIAL CONTROLS ...electrical symbols, wiring diagrams, ladder diagrams, control circuits, control logic, relays, types of control, control devices, time-delay control. (Prerequisite: 31-413-324, DC Machines)

31-413-344 AC MACHINES ...three-phase systems, transformers, alternators, three-phase motors, single-phase motors, electronic speed control. (Corequisite: 31-413-334, AC Circuits)

31-413-346 COMMERCIAL ELECTRICALCODE ...code requirements, plans and specifications, wiring methods, electrical service. (Prerequisite: 31-413-326, Residential Electrical Code 2)

31-413-349 ELECTRIC MOTOR CONTROL ...motor starters, overload relays, motor reversing circuits, motor starting methods, load devices, trouble-shooting motor circuits, programmable controller hardware, programmable controller programming. (Corequisite: 31-413-339, Industrial Controls)

Descriptions of courses not found on this page can be found in the back of the catalog.

Electro-Mechanical/Control Systems Technology

Program Code 106201

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Electro-Mechanical Technology prepares students to assemble, install, troubleshoot, repair, and modify machinery and automated systems that are computer or electronically controlled.

Graduates of the Electro-Mechanical Technology Program will be able to:
• Understand and apply knowledge of electricity/electronics, mechanics, fluids, and computer software applications.
• Read and interpret technical specifications, drawings, schematics, and diagrams.
• Document technical information through descriptive writing, sketches/diagrams, mathematical expression, computation, and graphs.
• Perform electrical, mechanical, and fluid measurements by properly selecting and operating test equipment and associated software.
• Perform assembly/disassembly, repair, or calibration of components by properly selecting tools and equipment and following procedures.
• Record and evaluate the characteristics and performance of machine components, assemblies, and systems.
• Understand the overall operation and control of machines and automated systems.
• Solve machine operation and control problems utilizing established troubleshooting methods and procedures.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

READING LEVEL

Materials used within this program have an average reading level of 13th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Automated Equipment Technician, Electro-Mechanical Technician, Electronics Technician, Field Service Technician, Fluid Power Technician, and Installation Technician.

AUTOMATED EQUIPMENT TECHNICIAN: maintains and repairs electronically-controlled automatic production equipment including servo-hydraulics equipment, programmable controllers, motor controllers, and robotic equipment.

ELECTRO-MECHANICAL TECHNICIAN: maintains and repairs electro-mechanical equipment including drive systems, position sensors, cabling, and automatic production equipment; works with mechanical and/or electrical engineers to install and evaluate electro-mechanical systems; and builds mock-ups of production equipment.

ELECTRONICS TECHNICIAN: maintains and repairs electronic equipment including cables, communication equipment, computers, security systems, and CNC equipment; works with electronics engineer in building breadboard and prototype devices; and evaluates and tests electronic devices and systems.

FIELD SERVICE TECHNICIAN: services, repairs, and overhauls equipment in the customer's facility; works with sales personnel; and demonstrates new equipment to potential customers.

FLUID POWER TECHNICIAN: maintains and repairs industrial hydraulic/pneumatic production equipment, hydraulic/pneumatic control systems, hydraulic/pneumatic robots, and servo and proportional hydraulic systems.

INSTALLATION TECHNICIAN: installs and sets up automated production equipment, robotic systems, and production control systems.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Electro-Mechanical Service Supervisor
• Electro-Mechanical Shop Supervisor
• Electro-Mechanical Systems Test Engineer
• Field Service Supervisor
• Maintenance Group Manager
• Service Control Technician

CURRICULUM

The Electro-Mechanical Technology Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-605-110	Tech Skills 1	1
10-605-116	Digital Concepts 1	3
10-605-117	DC Fundamentals	3
10-801-196	Oral/Interpers Communication	3
10-804-150	Math 1-Tech	5
	SEMESTER TOTAL	**15**

SECOND SEMESTER

10-605-120	Tech Skills 2	1
10-605-127	AC Fundamentals	3
10-605-128	Electronics-Basic	3
10-605-138	Digital Concepts 2	3
10-804-160	Math 2-Tech	4
10-809-195	Economics	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

10-620-133	Transducers	3
	OR	
* 10-605-152	Measurement-Temp/Level	3
10-620-134	Electromech-Rotating Equip	3
	OR	
* 10-605-153	Instrumentation-Pneum	3
10-620-135	Fluid/Mechanical Systems	3
10-620-136	Computer/Machine Interface	3
10-801-195	Communication-Written	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-620-131	Electromechanical System	3
	OR	
* 10-605-151	Control System Techniques	3
10-620-142	Fluid Control Mechanism	3
	OR	
* 10-605-154	Measurement-Flow/Analy	3
10-620-148	Programmable Controls-Adv	3
10-801-197	Reporting-Technical	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**18**

* Control System Technology emphasis only.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-605-116 DIGITAL CONCEPTS 1 ...basic logic gates, Boolean algebra, basic simplification techniques, flip-flops, counters, shift registers, computer number systems, binary arithmetic, half and full-adders, complement arithmetic, and arithmetic ICs using TTLICs and PLCs. (Prerequisite: 10-804-120, Math Tech Algebra)

10-605-117 DC FUNDAMENTALS ...scientific notation, Ohm's law applied to DC series and parallel circuits, circuit analysis tools, magnetism, measuring instruments, circuit analysis, circuit troubleshooting, and computer circuit. (Prerequisite: 10-804-150, Math 1-Tech)

10-605-127 AC FUNDAMENTALS ...alternating current generation, reactive components, reactance; Ohm's Law as applied to AC circuits; power and resonance; rectangular and polar notation; graphing, computer simulations, and use of AC measuring instruments. (Prerequisite: 10-605-117, DC Fundamentals; Corequisite: 10-804-160, Math 2-Technical)

10-605-128 ELECTRONICS-BASIC ...electronic devices, circuit analysis, and troubleshooting with emphasis on diode theory and circuits, voltage regulation, and amplifier theory with ideal voltage and current amplifier circuits. (Prerequisite: 10-605-117, DC Fundamentals; Corequisite: 10-804-160, Math 2-Tech)

10-605-138 DIGITALCONCEPTS 2 ...control applications using ladder logic control, input devices, relay, timing, counter control circuits, and programmable logic control (PLC). (Prerequisite: 10-605-116, Digital Concepts 2)

10-605-151 CONTROL SYSTEM TECHNIQUES ...electronic/digital control loops; schematic diagrams; measurement and transmission instruments; and final control devices concerned with the connecting, interaction, tuning, and troubleshooting of loops. (Prerequisites: 10-605-152, Measurement-Temperature Level; 10-605-153, Instrumentation-Pneumatics)

10-605-152 MEASUREMENTS-TEMPERATURE/ LEVEL ...theory of measurement and its application to mechanical and electrical devices used in measuring level and temperature; ultrasonic transmitters; RTDs, thermocouples, and head measuring devices. (Prerequisites: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic)

10-605-153 INSTRUMENTATION-PNEUMATICS ...instrumentation diagrams, symbology, and mathematics; pressure measurement and compressed air systems; study of pneumatic transmitter, converter, and controller instruments as used in closed loop control. (Prerequisites: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic)

10-605-154 MEASUREMENTS-FLOW/ANALYTICAL ...theory of measurement as applied to mechanical and electrical devicesused in obtaining flow and analytical measurements such as pH, consistency, humidity, conductivity, and viscosity. (Prerequisites: 10-605-152, Measurement-Temperature Level; 10-605-153, Instrumentation-Pneumatics)

10-620-131 ELECTROMECHANICALSYSTEMS ...feedback control analysis applied to servomechanical systems, and motor speed drives. (Prerequisites: 10-620-133, Transducers; 10-620-134, Electromechanical-Rotating Equipment; 10-620-136, Computer/Machine Interface)

10-620-133 TRANSDUCERS ...basic theory, operation, and application of industrial transducers, sensors, and detectors; installation, maintenance, and interfacing of various transducers. (Prerequisites: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic; 10-605-138, Digital Concepts 2)

10-620-134 ELECTROMECHANICAL-ROTATING EQUIPMENT ...construction, characteristics, and operation of DC motors and AC motors; construction, operation, and set-up of motor drive systems. (Prerequisites: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic; 10-804-160, Math 2-Tech)

10-620-135 FLUID/MECHANICALSYSTEMS ...basic theory and operation of hydraulic and mechanical components and systems. (Prerequisite: 10-804-160, Math 2-Tech)

10-620-136 COMPUTER/MACHINE INTERFACE ...development and use of computer graphics applied to the monitoring, supervision, and control of industrial machinery. (Prerequisites: 10-605-138, Digital Concepts 2; 10-804-160, Math 2-Tech)

10-620-142 FLUID CONTROLMECHANISMS ...theory, operation, and tuning of electro-hydraulic servovalve and proportional valve systems. (Prerequisites: 10-620-133, Transducers; 10-620-135, Fluid/Mechanical Systems)

10-620-148 PROGRAMMABLE CONTROLLERS 2 ...advanced applications and programming of PLCs, with emphasis on the hardware and software needed to interface PLCs to industrial components and systems, including maintenance, installation, and specifications. (Prerequisites: 10-620-133, Transducers; 10-620-134, Electromechanical-Rotating Equipment; 10-620-135, Fluid/Mechanical Systems; 10-620-136, Computer/Machine Interface)

Electronics Program Code 106051

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Electronics prepares students to operate, test, maintain, and troubleshoot electronic equipment such as automatic control, computers, and communications equipment. It is also designed to prepare technicians to work with Electronic Research and Development engineers.

Graduates of the Electronics Program will be able to:
- Describe the various digital modulation techniques.
- Identify components of power switching devices and circuits.
- Evaluate power switching circuits.
- Program microprocessor interface circuits.
- Measure electrical parameters of RF circuits.
- Describe wireless analog communication techniques.
- Use computer assembly language.
- Measure wide-band circuit parameters.
- Describe transfer characteristics of frequency sensitive linear circuits.
- Analyze an ON/OFF machine control circuit.
- Describe the assembly and interconnections of a microprocessor system.
- Predict operation of circuits containing active components.
- Identify the component and appropriate nomenclature of basic electronic symbols.
- Apply boolean theorems to basic digital circuits.
- Apply circuit theorems to AC/DC RLC circuits.
- Use basic electronic tools.
- Work in teams.
- Develop an industry acceptable work ethic.
- Communicate orally using common technical terminology.
- Write a technical document.
- Use office suite software package tools.
- Manipulate electronic formulas.
- Relate mathematics to the field of electronics.
- Interpret graphical data.
- Solve problems using algebra, trigonometry, complex numbers, logarithms, and exponentials.
- Use common test equipment to measure circuit parameters.
- Verify measured values.
- Machine code a processor.
- Adhere to laboratory safety standards.
- Operate microprocessor interface circuits.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Electronic Development Technician, Electronic Maintenance Technician, Electronic Test Technician, Electronics Technician, and Field Service Technician.

ELECTRONIC DEVELOPMENT TECHNICIAN: assists engineers in the design and development of experimental and prototype electronic equipment and products.

ELECTRONIC MAINTENANCE TECHNICIAN: services and programs in-plant automatic control equipment, computers, robots, and other electronic equipment.

ELECTRONIC TEST TECHNICIAN: tests, troubleshoots, and inspects electronics products (quality control testing).

ELECTRONICS TECHNICIAN: maintains electronic equipment including motor controllers, cables, communication equipment, computers, security systems, CNC equipment, programmable controllers, robots, and automatic production equipment; works with an electronics engineer in building breadboard and prototype devices; and evaluates and tests electronic devices and systems.

FIELD SERVICE TECHNICIAN: services and overhauls equipment in the customer's facility; works with sales personnel; and demonstrates new equipment to potential customers.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Computer Field Service Supervisor
- Electronics Production Superintendent
- Electronics Maintenance Supervisor

EARNING POTENTIAL

Graduates of the Electronics program have the potential to earn over $50,000 per year after five years of work experience.

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

CURRICULUM

The Electronics Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-605-110	Tech Skills 1	1
10-605-116	Digital Concepts 1	3
10-605-117	DC Fundamentals	3
10-801-196	Oral/Interpers Communication	3
10-804-150	Math 1-Tech	5
	SEMESTER TOTAL	**15**

SECOND SEMESTER

Course No.	Description	Credits
10-605-120	Tech Skills 2	1
10-605-127	AC Fundamentals	3
10-605-128	Electronics-Basic	3
10-605-138	Digital Concepts 2	3
10-804-160	Math 2-Tech	4
10-809-195	Economics	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

Course No.	Description	Credits
10-605-124	Microprocessors 1	3
10-605-136	Electronics-Linear	3
10-605-137	Data Communications 1	3
10-801-195	Communication-Written	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

Course No.	Description	Credits
10-605-144	Microprocessors 2	
10-605-147	Data Communications 2	3
10-605-148	Analog Communications	3
10-605-149	Power Devices	3
10-801-197	Reporting-Technical	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Internship (10-605-195), CAD-Electron Tech (10-606-101), Math 3-Tech Calc (10-804-170).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-605-116 DIGITAL CONCEPTS 1 ...basic logic gates, Boolean algebra, basic simplification techniques, flip-flops, counters, shift registers, computer number systems, binary arithmetic, half and full-adders, complement arithmetic, and arithmetic ICs using TTLICs and PLCs. (Prerequisite: 10-804-120, Math Tech Algebra)

10-605-117 DC FUNDAMENTALS ...scientific notation, Ohm's law applied to DC series and parallel circuits, circuit analysis tools, magnetism, measuring instruments, circuit analysis, circuit troubleshooting, and computer circuit. (Prerequisite: 10-804-150, Math 1-Tech)

10-605-124 MICROPROCESSORS 1 ...microprocessors using a microcontroller, assembly language programming and microprocessor architecture, digital information processing on the basic, machine level of a computer. (Prerequisite: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic; 10-605-138, Digital Concepts 2)

10-605-127 AC FUNDAMENTALS ...alternating current generation, reactive components, reactance; Ohm's Law as applied to AC circuits; power and resonance; rectangular and polar notation; graphing, computer simulations, and use of AC measuring instruments. (Prerequisite: 10-605-117, DC Fundamentals; Corequisite: 10-804-160, Math 2-Technical)

10-605-128 ELECTRONICS-BASIC ...electronic devices, circuit analysis, and troubleshooting with emphasis on diode theory and circuits, voltage regulation, and amplifier theory with ideal voltage and current amplifier circuits. (Prerequisite: 10-605-117, DC Fundamentals; Corequisite: 10-804-160, Math 2-Tech)

10-605-136 ELECTRONICS-LINEAR ...active and passive linear circuits including filters, resonant and impedance matching circuits, and linear amplifiers using BJT and FET active element. (Prerequisites: 10-607-257, AC Fundamentals; 10-605-128, Electronics-Basic)

10-605-137 DATA COMMUNICATIONS 1 ...circuits and principles in pulse amplitude, time, code modulation and delta modulation, sampling and noise effects using modulation techniques, and network concepts. (Prerequisites: 10-605-127, AC Fundamentals; 10-605-128, Electronics-Basic; 10-605-138, Digital Concepts 2)

10-605-138 DIGITAL CONCEPTS 2 ...control applications using ladder logic control, input devices, relay, timing, counter control circuits, and programmable logic control (PLC). (Prerequisite: 10-605-116, Digital Concepts 2)

10-605-144 MICROPROCESSORS 2 ...programming and applying digital I/O and control devices: ADCs, DACs, Timers, Parallel interfaces, Serial Communication interfaces, and Interrupt handling. An extension of Microprocessors 1. (Prerequisite: 10-605-124, Microprocessors 1)

10-605-147 DATA COMMUNICATIONS 2 ...RZ, NRZ, and Manchester encoding/decoding; principles of FSK, ASK, PSK, and noise effects on digital modulation; fiber optic principles, light, and a brief laser discussion. (Data Communications 1 extension.) (Prerequisite: 10-605-137, Data Communications 1)

10-605-148 ANALOG COMMUNICATIONS ...modulation principles including AM, FM, and SSB; noise influence on receiving systems, antenna characteristics, radiating fields, and high frequency propagation in feedlines. (Prerequisite: 10-605-136, Electronics-Linear)

10-605-149 POWER DEVICES ...use of power switching devices applied to switching systems such as power supplies, motor speed controls, power inverters and UPS systems; production of DC from line sources and the losses in switching devices; students will calculate and measure phase angles, voltages, currents and impedances using standard Ohm's Law concepts and laboratory measuring instruments. (Prerequisite: 10-605-136, Electronics-Linear)

Descriptions of courses not found on this page can be found in the back of the catalog.

Emergency Medical Technician-Basic Program Code 305313

TECHNICAL DIPLOMA - ONE SEMESTER

Offered throughout the District. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Emergency Medical Technician-Basic students perform emergency patient care and basic life support in the field, transporting injured and ill patients to hospital emergency departments.

Graduates of the Emergency Medical Technician-Basic Program will be able to:
• Apply preparatory aspects of emergency care.
• Perform airway management.
• Perform patient assessment.
• Manage medical, behavioral, and trauma patients.
• Adapt principles to pediatric cases.
• Perform field operations.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• May enter training if less than 18 years old, but must be 18 to take the licensing examination
• Satisfactory placement in the NWTC reading evaluation

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills and Accuplacer tests for Algebra. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate with an EMT-Basic Technical Diploma will have the potential for employment as a licensed Emergency Medical Technician. Most ambulance services in Wisconsin are volunteer, but both private ambulance services and fire departments employ EMT's in full-time paid positions. Some hospital emergency departments also employ EMTs.

EMERGENCY MEDICALTECHNICIAN: performs emergency patient care and basic life support in the field, transporting sick and injured patients to hospital emergency departments.

CURRICULUM

The EMT-Basic Technical Diploma is a one-semester program. Upon graduation a student will have completed 4 credits.

FIRST SEMESTER

Course No.	Description	Credits
30-531-310	EMT-Basic	4
	SEMESTER TOTAL	**4**

This program is not eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

531-310 EMT-BASIC ...preparatory aspects, airway management, patient assessment, medical/ behavioral cases, trauma care, pediatric cases, and field operations in basic life-support emergency medical care.

Descriptions of courses not found on this page can be found in the back of the catalog.

Farm Business and Production Management

Program Code 300901

TECHNICAL DIPLOMA - SIX-YEAR, PART-TIME

Offered District-wide. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 732-3875. Information in Sturgeon Bay: (920) 746-4900. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Farm Business and Production Management covers basic farming production and business management principles needed to be an efficient farmer. Formal classes are delivered District-wide at locations convenient for the farmer.

Graduates of the Farm Business and Production Management Program will be able to:
• Calculate farm business cost of production for forage, grain, beef, pork, and milk.
• Prepare and assess a livestock management plan that is environmentally friendly.
• Prepare and assess a business financial plan.
• Develop and assess a soil and crop management plan that is environmentally friendly.
• Own, operate, and/or be employed in an agriculture-related industry.
• Implement a business, soil, crop, and livestock management plan that is environmentally friendly.

REQUIREMENTS FOR PROGRAM ENTRY

• Communications: ability to listen, write complete sentences, spell accurately, and express ideas well verbally
• Science: basic plant and animal biology, chemistry, and applied physics
• Ability to use computer operating skills: keyboarding at 30 words per minute
• Basic math defined as addition, subtraction, multiplication and division

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have basic skills necessary to own and operate or be employed on a farm.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Dairy Herdsperson
• General Farm Manager
• Farm Records Manager
• Crop Supervisor
• Livestock Feeding Specialist
• Farm Equipment and Facilities Maintenance Manager
• Farm Service Employee
• Field Equipment Operator

CURRICULUM

The Farm Business and Production Management Technical Diploma is a six-year, part-time program. Upon graduation a student will have completed 18 credits.

Course No.	Description	Credits
30-090-381	Farm Business Operation	3
30-090-382	Soils Management	3
30-090-383	Crop Mgmt	3
30-090-384	Livestock Nutrition	3
30-090-385	Livestock Mgmt	3
30-090-386	Farm Record/Busi Analy	3
	SEMESTER TOTAL	**18**

This program is not eligible for financial aid. Tuition assistance is available through the Wisconsin Dept. of Agriculture.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-090-381 FARM BUSINESS OPERATION ...farm business planning; financial management; personnel management; record keeping systems; business structure for farm operation; tax issues; farm business analysis; and decision making. Estate and retirement planning.

30-090-382 SOILS MANAGEMENT ...preparing and implementing a land use plan, soil testing procedures and reports, corrective fertilizers, soil conservation, safe use of farm machinery and equipment, and farm business analysis.

30-090-383 CROPMANAGEMENT ...economics, alternative crop strategies, production management, variety selection, maintenance fertilization, pest controls and chemicals, harvesting, storage, marketing, and farm business analysis.

30-090-384 LIVESTOCK NUTRITION ...sound feeding management; economics of feeds; nutritional terminology and requirements; feed consumption; feed tag labels for protein, energy, minerals, and vitamins; evaluate feeding programs; and metabolic diseases.

30-090-385 LIVESTOCK MANAGEMENT ...livestock selection; breeding management; herd health; young stock management; selection, operation, and maintenance of milking, feeding, ventilation, and manure handling systems; farm buildings; feed storage; and farm business analysis.

30-090-386 FARM RECORD/BUSINESS ANALYSIS ...farm business goals, use of farm credit, farm business arrangements, orderly farm transfer, farm estate planning, farm income taxes, computer records, and farm business analysis.

Descriptions of courses not found on this page can be found in the back of the catalog.

Financial Institutions Management Program Code 101028

ASSOCIATE DEGREE - FIVE YEARS, PART-TIME WITH SHORTER OPTIONS AVAILABLE

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Financial Institutions Management is designed for current or prospective employees of financial institutions seeking specialized training.

Graduates of this program will be able to:
- Perform business math calculations.
- Analyze business and personal financial documents.
- Ensure compliance with state and federal laws.
- Recommend appropriate financial products to customers.
- Use marketing tools and techniques.
- Manage the work of other people in a team environment.
- Assess the impact of economic trends on the financial industry.
- Use financial counseling techniques.
- Make loan decisions.
- Demonstrate knowledge and understanding of collection procedures.
- Deliver good customer service.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

The curriculum is structured to provide a climate for the development of the functional skills needed by participants from entry level through senior management.

The program was developed in coordination with
- American Bankers Association

CURRICULUM

The Financial Institutions Management Associate Degree is a five-year, ten-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-102-151	Banking Principles	3
10-103-103	Micro Basics MS Office 1	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**9**

SECOND SEMESTER

10-102-101	Financial Applications	3
10-102-122	Financial Inst-Mktg	3
	SEMESTER TOTAL	**6**

THIRD SEMESTER

10-101-110	Accounting 1	4
10-104-113	Credit-Consumer	3
	SEMESTER TOTAL	**7**

FOURTH SEMESTER

10-102-153	Finance-Personal	3
10-801-195	Communication-Written	3
	SEMESTER TOTAL	**6**

FIFTH SEMESTER

10-102-150	Law-Business	3
10-801-196	Oral/Interpers Communication	3
	SEMESTER TOTAL	**6**

SIXTH SEMESTER

10-102-160	Law-Credit	3
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**9**

SEVENTH SEMESTER

10-102-180	Money/Banking	3
10-196-110	Supervision Principles	3
	SEMESTER TOTAL	**6**

EIGHTH SEMESTER

10-102-125	Mortgage Lend/Serv	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**6**

NINTH SEMESTER

10-102-155	Trust Functions/Service	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**6**

TENTH SEMESTER

10-102-167	Commercial Lending	3
10-196-143	Diversity-Workplace	1
	Elective	3
	SEMESTER TOTAL	**7**

SUGGESTED ELECTIVES: Financial Statement Analysis (10-102-172), Collection Methods (10-102-165), Accounting 2 (10-101-120), Credit Management Seminar (10-104-144), Financial Counseling Techniques (10-102-174).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-102-101 FINANCIALAPPLICATIONS ...use of financial calculators, checkbook records, purchasing systems, shipping/receiving systems, A/R systems, A/P systems, business loans, breakeven analysis, sales gain/loss, depreciation methods, inventory methods, and financial statement analysis.

10-102-122 FINANCIALINSTITUTIONS- MARKETING ...fundamental concepts of marketing and the application of these concepts; as financial institutions enter the electronic era, effective marketing will be critical in determining the course of the industry.

10-102-125 MORTGAGE LENDING/SERVICING ...principles and practices involved in making and closing mortgage loans and servicing a sound mortgage portfolio, including the secondary mortgage market.

10-102-150 LAW-BUSINESS ...common law contracts and sales contracts: formation, interpretation, performance, and discharge; the law of agency; corporations; and introduction to the American legal system: criminal and tort law.

10-102-151 BANKING PRINCIPLES ...U.S. banking history, organization, the Federal Reserve System, deposit functions, security issues, payment flow, credit functions, accounting, specialized services, marketing, and current issues and trends.

10-102-153 FINANCE-PERSONAL ...income and occupations, financial spending plan development, purchasing consumer goods and services, risk management plan development, investment plan development, retirement and estate planning, and financial advising.

10-102-155 TRUST FUNCTIONS/SERVICE ...trust functions; estate settlement; guardianships; trust services; performance of agencies, individuals, business organizations, charitable institutions; and trust administration.

10-102-160 LAW-CREDIT ...Uniform Commercial Code, credit regulations, Wisconsin Consumer Protection Law, collection law, and bankruptcy.

10-102-167 COMMERCIAL LENDING ...functions of the loan interview and credit investigation, elements of the loan document and its loan functions, the structuring of commercial loans, and federal and state laws governing commercial lending.

10-102-180 MONEY/BANKING ...economics and banking, commercial banking system, money supply, investments and loans, Federal Reserve System, and international monetary system.

10-104-113 CREDIT-CONSUMER ...the role of consumer credit, loan processes, collections; financial advising and counseling; loan, promotion, and bank policies; consumer, commercial, mortgage loans, and credit cards.

10-196-110 SUPERVISION PRINCIPLES ...supervisor's role, planning, problem solving, organizing/staffing/training/retraining employees, motivation, evaluating performance, challenging employees, teamwork, controlling work, discipline, productivity, quality, and diversity.

Descriptions of courses not found on this page can be found in the back of the catalog.

Fire Protection Engineering Technology

Program Code 105033

ASSOCIATE DEGREE - TWO YEARS

Offered at the Marinette campus or with the first year at the Green Bay campus under the 1 + 1 Program. Admissions, registration, or counselor and course information: (715) 735-9361 or (920) 498-5733. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Fire Protection Engineering Technology teaches students to design, install, and service automatic sprinkler, fire alarm, and special hazard fire suppression systems.

Graduates of the Fire Protection Engineering Technology Program will be able to:
- Analyze developments in the fire protection field.
- Produce fire protection drawings.
- Use written, technical, and oral presentations.
- Design fire protection systems.
- Use construction blueprints.
- Evaluate automatic sprinkler systems.
- Evaluate fire protection hazards.
- Troubleshoot electrical components of fire protection systems.
- Compare manual and automatic fire extinguishing systems and agents.
- Arrange fire detection, alarm, and control devices.
- Design automatic fire sprinkler systems.
- Test to NICET Level II in at least one subfield.
- Design special hazards systems.
- Observe how fire protection is viewed by the general public.
- Assemble systems cost information.
- Install, service, and inspect fire protection systems.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

READING LEVEL

Textbook readability within this program has an average reading level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Fire Protection Systems Designer, Fire Protection Equipment Sales Representative, Fire Protection Systems Installer, and Industrial Safety Technician in the areas of automatic fire sprinklers, special hazards and fire alarm systems.

FIRE PROTECTION SYSTEMS DESIGNER: prepares designs and layout drawings of new detection and suppression systems for commercial, residential, and industrial applications.

FIRE PROTECTION EQUIPMENT SALES REPRESENTATIVE: merchandises fixed and portable fire protection equipment for commercial, industrial, and residential applications.

FIRE PROTECTION SYSTEMS INSTALLER: interprets the protection system design for on-site installation, operation, and maintenance of fire protection systems.

INDUSTRIALSAFETY TECHNICIAN: assists the industrial safety manager in plant fire safety programs and procedures; and insures compliance with federal, state, and municipal codes and ordinances.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Fire Protection Consultant
- Fire Protection Equipment Sales Manager
- Industrial Safety Manager
- Municipal Safety Manager
- Property Loss/Risk Management Specialist

The Fire Protection Engineering Technology program is available on a " 1 + 1 basis" - one year at NWTC Green Bay or other Wisconsin Technical College to complete the general education requirements, followed by one year at the Marinette Campus to complete all fire protection courses.

This approach is designed to minimize commuting or relocation. Courses marked with * would comprise the first year's requirements. Electives may be taken in either year. Contact a counselor for details.

CURRICULUM

The Fire Protection Engineering Technology Associate Degree is a two-year, four-semester program. Upon graduation a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-503-111	Fire Protect Tech-Intro	2
10-503-113	Fire Extinguisher-Portable	2
* 10-503-123	Fire Tech-Blueprint Rdg	2
* 10-606-109	Drafting 1-Technical	2
* 10-606-115	CAD	3
* 10-801-196	Oral/Interpers Communication	3
* 10-804-120	Math-Tech Algebra	3
	SEMESTER TOTAL	17

SECOND SEMESTER

10-503-120	Fire Protect Theory/Prin	3
10-503-126	Sprinkler Hydraulics-Auto	3
* 10-503-132	Fire Detection-Elec 1	3
10-503-180	Nicet-Basic	2
* 10-804-130	Algebra/Trigonometry	3
* 10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	17

THIRD SEMESTER

10-503-130	Fire Protect System Appl	3
10-503-135	Fire Detection-Elec 2	3
10-503-137	Sprinkler-Auto	4
10-503-138	Hazard Analysis	3
* 10-801-195	Communication-Written	3
	Elective	2
	SEMESTER TOTAL	18

FOURTH SEMESTER

10-503-140	Hazards Sys Design-Spec	3
10-503-148	Technical Project	3
* 10-801-197	Reporting-Technical	3
* 10-809-197	Society-Amer Contemp	3
	Elective	2
	Elective	2
	SEMESTER TOTAL	16

*Indicates that an equivalent course is available at NWTC Green Bay or at other Wisconsin Technical Colleges under the 1 + 1 Program.

SUGGESTED ELECTIVES: NICET Advanced-Automatic Sprinklers (10-503-181), NICET Advanced-Special Hazards (10-503-182), and NICET Advanced-Alarms (10-503-183).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-503-111 FIRE PROTECTION TECHNOLOGY-INTRODUCTION ...domestic and international fire protection industry, combustion processes, fire extinguishment technology, the history of fires/fire codes, legal aspects of fire protection, quality assurance requirements, and career opportunities in fire protection.

10-503-113 FIRE EXTINGUISHER-PORTABLE ...water extinguishers, CO_2 extinguishers, dry chemical extinguishers, halogenated extinguishers, use of fire extinguishers, national fire codes and test standards, and hydrotesting procedures.

10-503-120 FIRE PROTECTION THEORY/PRINCIPLES ...carbon dioxide systems, the phase out of Halon systems, clean agents, halocarbon systems, inert gas systems, dry chemical systems, wet chemical systems, foam systems, and explosion suppression systems.

10-503-123 FIRE TECHNOLOGY-BLUEPRINT READING ...reading construction floor plans, elevations, construction details, site plans, electrical plans, plumbing plans, HVAC, fire protection plans, site survey, bill of materials, and specifications.

10-503-126 SPRINKLER HYDRAULICS-AUTOMATIC ...hydraulic calculations for tree, loop, and grid systems using manual and computerized methods; and testing and evaluating water supplies for fire protection.

10-503-130 FIRE PROTECTION SYSTEM APPLICATION ...selection of detection systems for specific hazards, proper location and spacing of detectors, programming fire control panels, and proper alarm wiring.

10-503-132 FIRE DETECTION-ELECTRONICS 1 ...basic concepts of AC/DC electrical circuits, Ohm's Law, series/parallel resistance, conductors, insulators, batteries, and electro-mechanical induction used in fire protection.

10-503-135 FIRE DETECTION-ELECTRONICS 2 ...electronic sensing and activating systems, detection, alarm and suppression systems, component parts, power sources, and testing and troubleshooting fire protection systems.

10-503-137 SPRINKLER-AUTOMATIC ...fire protection requirements of automatic sprinkler systems, design pipe schedule and hydraulically calculated water suppression systems, foam systems, and fire pumps.

10-503-138 HAZARD ANALYSIS ...planning, surveying, and making professional recommendations regarding appropriate fire prevention, suppression and detection systems for specified industrial fire hazards.

10-503-140 HAZARDS SYSTEM DESIGN-SPECIAL ...theories and principles of fire suppression in designing appropriate fire systems emphasizing CO_2 and clean agents, and building fire safety design and construction.

10-503-148 TECHNICAL PROJECT ...independent research report or project utilizing technical and communication skills from Fire Protection Engineering Technician program.

10-503-180 NICET-BASIC ...procedures, forms, standards, codes, and general knowledge necessary to successfully pass the crossover work elements in level 2 - NICET Certification in "Auto Sprinkler, Special Hazard, and Fire Alarm Systems."

Gas Utility Construction and Service

Program Code 314692

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Gas Utility Construction and Service prepares students to install, maintain, and operate natural and propane gas distribution systems used to supply residential, commercial, and industrial customers.

Graduates of the Gas Utility Construction and Service Program will be able to:
- Communicate technical information.
- Operate tools and equipment.
- Join pipe.
- Install propane gas distribution systems.
- Install natural gas distribution systems.
- Apply customer service skills.
- Maintain gas distribution systems.
- Operate pipeline excavation equipment.
- Service gas appliances.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- Be able to obtain a commercial driver's license
- Place satisfactorily in the NWTC mathematics examination

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Propane Gas Delivery Person, New Customer Tank and Cylinder Installer, Bulk Plant Operator, Gas Construction Mechanic, Gas Meter Mechanic, Gas Service Mechanic, Gas Clerk-Estimator, Gas Regulator Maintenance Mechanic, Gas Appliances Repair Mechanic, and Underground Facilities Locator.

PROPANE GAS DELIVERY PERSON: delivers bulk propane gas to customers and interacts with customers.

NEW CUSTOMER TANK AND CYLINDER INSTALLER: installs propane and connects piping to customer appliances.

BULK PLANT OPERATOR: fills and maintains cylinders and fills bulk delivery trucks.

GAS CONSTRUCTION MECHANIC: installs and maintains gas distribution and transmission pipelines using trenching, backhoe, road boring, plastic fusion, welding, mapping, and record keeping skills.

GAS METER MECHANIC: installs, repairs, and maintains electronic and mechanical gas metering equipment.

GAS SERVICE MECHANIC: installs and maintains residential, commercial, and industrial gas piping, valving, pressure regulating, and over-pressure protective equipment.

GAS CLERK-ESTIMATOR: develops specifications and related maps and records used in installing and maintaining gas distribution facilities. Records of this type are manual but are moving towards computer emphasis.

GAS REGULATOR MAINTENANCE MECHANIC: installs and maintains high pressure gas regulating, measuring, odorizing, heating, filtering, valving, and piping systems; electronically and mechanically operated equipment is involved.

GAS APPLIANCE REPAIR MECHANIC: maintains and troubleshoots residential and/or commercial gas appliances and heating/cooling equipment.

UNDERGROUND FACILITIES LOCATOR: locates and marks all underground facilities prior to excavation using various locating equipment.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Construction Crew Foreman
- Corrosion Technician
- Meter and Regulator Technician
- Utility Locating Supervisor
- Pipeline Welder
- Vendor Sales and Marketing

CURRICULUM

The Gas Utility Construction and Service Technical Diploma is a one-year, three-semester program. Upon graduation, a student will have completed 32 credits.

FIRST SEMESTER (SUMMER)

Course No.	Description	Credits
31-442-315	Welding-Gas Service 1	2
31-469-310	Gas Utility Field Trng 1	4
31-804-310	Algebra-Trades	2
	SEMESTER TOTAL	**8**

SECOND SEMESTER

31-413-348	Electricity-Basic	2
31-422-310	Metallurgy	2
31-442-325	Welding-Gas Service 2	2
31-469-320	Gas Utility Field Trng 2	5
31-469-330	Gas Utility Fld Trng 3	5
	SEMESTER TOTAL	**16**

THIRD SEMESTER

31-413-358	Electricity-Gas Applianc	2
31-469-340	Gas Util Fld Trng 4	4
31-801-385	Communicating-Writing	1
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**8**

This program is fully eligible for financial aid.

Students also receive Certification on Midwest Energy Pipeline Operator Qualification. This certificate is recognized throughout the United States.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-413-348 ELECTRICITY-BASIC ...electron theory, electrical terms, Ohm's Law, DC and AC circuits, magnetism and magnetic devices, electrical measurements, inductance and capacitance, relays and transformers, motors and generators, circuit protective devices, electrical safety.

31-413-358 ELECTRICITY-GAS APPLIANCE ...electrical sources/circuits in gas appliances, safe practices, test equipment, reading wiring diagrams, gas/electrical control functions, ignition systems, sequence of operation and troubleshooting.

31-422-310 METALLURGY ... manufacture of iron and steel, mechanical and physical properities of metals, metal identification, macro and microscopic grain structures, welding metallurgy, applied heat treating processes, and weld failures and fractures.

31-442-315 WELDING-GAS SERVICE 1 ...position pipe welding utilizing oxyacetylene and gas metal arc welding, welding safety, weld faults and causes, weld joint design, and fitup.

31-442-325 WELDING-GAS SERVICE 2 ...position pipe welding utilizing gas metal arc welding and shielded metal arc welding processes, pipe fitup, and pipe weld testing according to API 1104 code. (Prerequisite: 31-442-315, Welding-Gas Service 1)

31-469-310 GAS UTILITYFIELD TRAINING 1 ...construction equipment safety and operation (trenching, backhoe, boring), equipment maintenance, gas and vehiclar safety, field mapping.

31-469-320 GAS UTILITYFIELD TRAINING 2 ...natural gas line installation standards for plastic pressure testing, fusion, leak detection procedures, general installation procedures and repair of plastic mains and services, introduction to propane gas systems and safety.

31-469-330 GAS UTILITYFIELD TRAINING 3 ...installation and repair of steel mains and services, applied field welding and maintenance, line testing and leak detection procedures, approved safety installation procedures using hand tools and supportive equipment.

31-469-340 GAS UTILITYFIELD TRAINING 4 ...installation, maintenance, and repair of residential gas appliances, venting codes, line stoppering equipment, corrosion control, regulators, metering, first aid, and customer service training.

Health Care Business Services Program Code 101601

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Health Care Business Services prepares a student to work in the business offices of medical and dental clinics, hospitals, nursing homes, related health care facilities, health insurance settings in administrative, financial, and customer service roles.

A graduate of this program will be able to:

• Follow federal, state, and local laws and regulations.
• Identify marketing methods and benefits for health care facilities.
• Use service and managed care contracts.
• Process patient accounts receivables.
• Schedule patient appointments.
• Use medical terminology.
• Use a financial calculator.
• Use ICD 9 and CPT 4 coding.
• Complete and process health insurance claim forms.
• Process medical records release and storage procedures.
• Identify components of the U.S. Health Care Delivery System.
• Balance a checkbook to a bank statement.
• Apply computer skills specific to health care and health insurance.
• Process supply inventory.
• Record accounting and financial transactions in a medical setting.
• Use a computer keyboard.
• Use effective telephone techniques.
• Use stress management techniques.
• Participate in an employment interview.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Basic math
• Ability to use computer keyboard
• Ability to work with co-workers, patients, and health care providers

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Medical Accountant/Bookkeeper, Admitting Representative, Appointment Secretary, Claims Analyst, Insurance Billing Clerk, Medical Records Clerk, Patient Services Representative, Patient Accounts Clerk, Office Assistant, Financial Services Representative, Medical and Insurance Customer Service Representative.

MEDICAL ACCOUNTANT/BOOKKEEPER: keeps financial records; prepares financial statements, balance sheet, and summary reports; analyzes accounts; handles the bookkeeping system of accounts payable and receivable; processes collections; handles end-of-period reports related to a medical facility.

ADMITTING REPRESENTATIVE: accomplishes patient admitting procedures by interviewing the patient and entering information on a computer terminal or admitting form system.

APPOINTMENT SECRETARY: makes appointments for a doctor and contacts patients related to appointment changes, in a clinic or hospital outpatient setting.

CLAIMS ANALYST: processes insurance claims on a computer terminal, performs claims investigations, provides customer service to insureds and insurance purchasers.

INSURANCE BILLING CLERK: makes sure that patient accounts are billed to the proper insurance carrier and all needed patient information is collected.

MEDICAL RECORDS CLERK: handles all patient medical records in area such as progress notes, pulls records of patients on a daily basis.

PATIENT SERVICES REPRESENTATIVE: greets, schedules, assists patients in a clinic setting.

PATIENT ACCOUNTS CLERK: records money, makes bank deposits, provides for collection preparation.

OFFICE ASSISTANT: assumes numerous duties in a clinic, nursing home, hospital, or other medical related facility that would involve, to some degree, all of the duties in the specialized occupational areas previously listed.

FINANCIAL SERVICES REPRESENTATIVE: meets with patients to analyze and explain health benefits and negotiates a payment agreement with the patient.

MEDICAL AND INSURANCE CUSTOMER SERVICE REPRESENTATIVE: responds to patient and insured questions, explains health benefits, identifies options, and solves problems.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Clinic Office Supervisor or Manager
• Hospital Administrative Assistant
• Medical Credit Manager
• Nursing Home Administrator
• Nursing Home Administrative Assistant
• Patient Accounts Supervisor
• Health Insurance Supervisor/Trainer
• Certified Coding Specialist
• Health Insurance Provider Contract Analyst
• Physician Relations Administrator

CURRICULUM

The Health Care Business Services Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 69 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-111	Micro: Windows-Introduction	1
10-103-121	Micro: Word-Introduction	1
10-103-131	Micro: Excel-Introduction	1
10-160-111	Health Care Overview	2
10-510-165	Medical Terminology	3
10-530-110	Medical Info Processing	3
10-801-196	Oral/Interpers Communication	3
10-809-199	Psychology-Human Rel OR	3
10-809-198	Psychology-Intro	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

Course No.	Description	Credits
10-103-141	Micro: Access-Intro	1
10-160-121	Medical Business/Law	1
10-160-131	Health Care Management Process	2
10-160-161	Insurance Health Principles	3
10-530-120	Medical Transcription	1
10-530-135	Health Info-Legal	1
10-801-195	Communication-Written	3
10-804-101	Math-Business	3
10-806-181	Anatomy/Struct-Funct	2
	SEMESTER TOTAL	**17**

THIRD SEMESTER

Course No.	Description	Credits
10-101-110	Accounting 1	4
10-104-191	Customer Service Mgmt	3
10-160-143	Medical Practice Proc	3
10-530-124	Diagnostic/Proc-Code 1	3
10-809-197	Society-Amer Contemp OR	3
10-809-196	Sociology-Intro	3
	Elective	3
	SEMESTER TOTAL	**19**

FOURTH SEMESTER

Course No.	Description	Credits
10-101-145	Financial Mgmt-Medical	3
10-160-140	Health Care Internship OR	3
10-160-141	Health Care Field Study	3
10-160-142	Medical Credit/Collect	2
10-160-151	Health Care Relations	2
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**16**

SUGGESTED ELECTIVES: Micro: Powerpoint-Introduction (10-103-151), Health Care Business Trends (10-160-144), Problem Solving Team Building (10-196-189), Health Care-Quality (10-530-131).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-101-145 FINANCIALMANAGEMENT-MEDICAL ...budgeting, operations, cash flow, capital; rate setting process; working capital management; health care credit; cash and short-term investments; inventory management; long-term financing; leasing; purchasing capital equipment; and reporting operating results.

10-160-111 HEALTH CARE OVERVIEW ...U.S. health care system beliefs and evolution, professionals and technologies, financing, outpatient and inpatient facilities, managed care, marketing, integrated delivery, U.S. system compared to others, future of health systems, field study.

10-160-121 MEDICALBUSINESS/LAW ...code of ethics, ethical questions in the medical setting, patient's rights, law introduction, lawyers and clients, judges, courts, juries, civil action, appeal, out-of-court settlements, contract laws, wills, trusts.

10-160-131 HEALTH CARE MANAGEMENT PROCESSES ...management and supervision in health care institutions: planning, organizing, staffing, directing and controlling, and labor relations.

10-160-140 HEALTH CARE BUSINESS SERVICES INTERNSHIP ...career planning, resumes, interviews, search strategy, actual health care work experience, applied workplace improvements and ethical model.

10-160-141 HEALTH CARE FIELD STUDY ...career planning, resumes, interviews, work flow and services quality analysis in health care settings, recommended improvements, health care issue analysis, applied ethical model.

10-160-142 MEDICALCREDIT/COLLECTIONS ...credit in a medical facility; history, definition, and department organization; granting credit in a medical facility; controlling credit: collecting the account, measuring the effort, and auditing the function.

10-160-143 MEDICALPRACTICE PROCEDURES ...professional duties, ethical codes, medical scheduling, admissions, third-party payer processes, managed care procedures, empathy, respect for diversity, medical records, confidentiality, information systems, legal regulation, office medical administration.

10-160-151 MANAGED HEALTH CARE RELATIONSHIPS ...the financing of health care, managed care participants and products, integrated systems, organization structure, provide networks, purchase cost containment, quality of care, regulation, and accountability.

10-160-161 INSURANCE HEALTH PRINCIPLES ...risk; health and dental insurance; worker's compensation; malpractice; government plans: Medicare, Medicaid, CHAMPUS; TriCare, BadgerCare, Managed Care; Benefit Plan Design; and Provider Contracts.

10-510-165 MEDICALTERMINOLOGY ...spelling, pronunciation, definition, and abbreviation application; word roots, prefixes and suffixes, and anatomical structure.

10-530-110 MEDICAL INFORMATION PROCESSING ...medical record contents, registration, procedures, quantitative analysis, numbering, filing, retention, abstracting, and indexing; computerization of record processing activities; and records control, retention, creation; and evaluating systems.

10-530-120 MEDICAL TRANSCRIPTION ...transcription process for medical dictation in a health care facility; transcription techniques; practice transcribing physicians' dictated reports; and apply grammar, punctuation, spelling, and technical rules. (Prerequisite: 10-106-109, Info Processing Appl 1; Corequisite: 10-510-165, Medical Terminology)

10-530-124 DIAGNOSTIC/PROCEDURAL-CODING 1 ...the International Classification of Diseases (ICD-9-CM) with emphasis on basic coding skills, use of this classification system in acute and other health care settings, its application for statistical and reimbursement purposes.

10-530-135 HEALTH INFORMATION-LEGAL ...the American legal system; evaluate privacy, confidentiality, privileged communication rights and responsibilities and consent; evaluate health care legislation.

Descriptions of courses not found on this page can be found in the back of the catalog.

Health Information Technology

Program Code 105301

ASSOCIATE DEGREE - TWO YEARS, PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Health Information Technology program teaches students to work with medical records and statistics, code medical data, maintain health record systems, transcribe medical information, and control the usage and release of health information. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Students who have an interest in the business and information aspects of health care but are unsure of their options and preferences in this growing field have a special opportunity. Students begin their programs with the SAME course selection that is required for students in Health Care Business Services. The first semesters for Health Information Technology and Health Care Business Services are identical and offer students opportunities to learn about and observe work in both areas through Field Study experiences. This is a unique opportunity within the College.

Graduates of the Health Information Technology program will be able to:
- Be successfully employed in the field.
- Define health care data elements.
- Evaluate documentation.
- Collect, store, and retrieve patient and departmental data.
- Assign diagnostic/procedure codes.
- Monitor data accuracy.
- Analyze, interpret, and present healthcare data/statistics.
- Understand information technology/systems.
- Manage/supervise resources, training, projects, and processes in the Health Information Department.
- Act to improve performance and strategic thinking in the Health Information Department and institution.
- Monitor changes in and compliance with the legal and regulatory environment related to health information.
- Release health information/patient records.
- Apply principles of organization, financing, and delivery of health care services.
- Apply principles of biomedical sciences.
- Use basic microcomputer applications.

Students will be required to provide their own transportation to clinical facilities, pay for liability insurance for each clinical course, and purchase any uniforms/name tags that might be required.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.
- A high school diploma or equivalent
- High school biology or the equivalent
- Typing skills of at least 40 WPM
- A medical examination satisfactorily completed within three months before entering the program
- Attendance at program orientation

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Coder/Abstractor, Release of Information Specialist, Health Record Analyst, Discharge Analyst, Cancer Registrar, Medical Transcriptionist, Quality Analyst, Utilization Review Coordinator, or Supervisor in a Health Information/ Medical Record Department.

Career opportunities are available in the following facility areas: hospitals, clinics, nursing homes, mental health facilities, and home health agencies; state and federal health agencies; and private industry (insurance, microfilm, record storage and retrieval, computer vendors, and copy service companies).

CODER/ABSTRACTOR: assigns diagnosis and procedure codes according to recognized classification systems, retrieves and enters patient health information into a computerized system.

RELEASE OF INFORMATION SPECIALIST: responsible for the usage and proper release of health information.

HEALTH RECORD ANALYST: retrieves and displays health data for administrative and health statistics using the medical record or a variety of computerized health record indexes.

DISCHARGE ANALYST: organizes, analyzes, and technically evaluates medical records according to established standards.

CANCER REGISTRAR: retrieves and displays data on a facility's treatment and staging of cancer cases and is an integral part of a cancer program and its accreditation by the American College of Surgeons.

MEDICAL TRANSCRIPTIONIST: uses transcription and word processing equipment to transcribe dictation from physicians and allied health professionals. The Registered Health Information Technician (RHIT) {formerly Accredited Record Technician (ART)} generally would become a supervisor of this function.

QUALITY ANALYST: retrieves and displays health data using predetermined criteria to assist organizations in their quality improvement process.

UTILIZATION REVIEW COORDINATOR: performs admission, continued stay, and discharge review on hospital patients regardless of their pay source.

SUPERVISOR IN A HEALTH INFORMATION/ MEDICAL RECORD DEPARTMENT: may be responsible for all or part of the functions listed above in addition to assisting with the maintenance of optimum information storage and retrieval systems.

NOTE: Students who do not meet the above requirements should consult an NWTC counselor about ways to make up any deficiencies through testing or course work.

READING LEVEL
Textbook readability within this program has an average level of 14th grade.

MATH LEVEL
Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM

The Health Information Technology Associate Degree is a two-year, one-summer, five-semester program. Upon graduation a student will have completed 71 credits.

FIRST SEMESTER
Course No.	Description	Credits
10-103-111	Micro: Windows-Introduction	1
10-103-121	Micro: Word-Introduction	1
10-103-131	Micro: Excel-Introduction	1
* 10-160-111	Health Care Overview	2
* 10-510-165	Medical Terminology	3
* 10-530-110	Medical Info Processing	3
10-801-195	Communication-Written	3
10-801-196	Oral/Interpers Communication	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER
Course No.	Description	Credits
10-103-141	Micro: Access-Intro	1
* 10-160-131	Health Care Management Process	2
* 10-160-161	Insurance Health Principles	3
* 10-530-120	Medical Transcription	1
* 10-530-135	Health Info-Legal	1
* 10-530-138	Health Info-Release of Info	1
* 10-806-180	Anatomy/Physiology	4
10-809-198	Psychology-Intro	3
	OR	
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER (SUMMER)
Course No.	Description	Credits
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**6**

FOURTH SEMESTER
Course No.	Description	Credits
* 10-510-136	Nursing Pharmacology-Appl	2
* 10-530-124	Diagnostic/Proc-Code 1	3
* 10-530-132	Health Statistics	2
* 10-530-133	Health Info Affiliation 1	1
10-806-197	Pathophysiology	3
10-809-196	Sociology-Intro	3
	OR	
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**17**

FIFTH SEMESTER
Course No.	Description	Credits
* 10-530-131	Health Care-Quality	2
* 10-530-137	Diagnostic/Proc-Code 2	5
* 10-530-141	Health Info Affiliation 2	6
* 10-530-142	Health Info Tech Update	2
	SEMESTER TOTAL	**15**

SUGGESTED ELECTIVES: Medical Practice Procedures (10-160-143); Health Care Relationships (10-160-150); Health Care Business Trends (10-160-144); Micro: Powerpoint Intro (10-103-151) or Medical Business/ Law (10-160-121)

NOTE: No final grade lower than a C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program. Permission of Program Director is required if a student is not enrolled in this program.

ACCREDITATION: Graduates of the program are eligible to take the national accreditation examination offered by the American Health Information Management Association (AHIMA) to become a Registered Health Information Technician (RHIT). The Health Information Technology program is accredited by the Commission on the Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Council on Accreditation of the American Health Information Management Association,
919 N. Michigan Avenue, Suite 1400
Chicago, IL, 60611-1683
(312)787-2672

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-160-111 HEALTH CARE OVERVIEW ...U.S. health care system beliefs and evolution, professionals and technologies, financing, outpatient and inpatient facilities, managed care, marketing, integrated delivery, U.S. system compared to others, future of health systems, field study.

10-160-131 HEALTH CARE MANAGEMENT PROCESSES ...management and supervision in health care institutions: planning, organizing, staffing, directing and controlling, and labor relations.

10-160-161 INSURANCE HEALTH PRINCIPLES ...risk; health and dental insurance; worker's compensation; malpractice; government plans: Medicare, Medicaid, CHAMPUS; TriCare, BadgerCare, Managed Care; Benefit Plan Design; and Provider Contracts.

10-510-165 MEDICALTERMINOLOGY ...spelling, pronunciation, definition, and abbreviation application; word roots, prefixes and suffixes, and anatomical structure.

10-530-110 MEDICAL INFORMATION PROCESSING ...medical record contents, registration, procedures, quantitative analysis, numbering, filing, retention, abstracting, and indexing; computerization of record processing activities; and records control, retention, creation; and evaluating systems.

10-530-120 MEDICALTRANSCRIPTION ...transcription process for medical dictation in a health care facility; transcription techniques; practice transcribing physicians' dictated reports; and apply grammar, punctuation, spelling, and technical rules. (Prerequisite: 10-106-109, Info Processing Appl 1; Corequisite: 10-510-165, Medical Terminology)

10-530-124 DIAGNOSTIC/PROCEDURAL-CODING 1 ...the International Classification of Diseases (ICD-9-CM) with emphasis on basic coding skills, use of this classification system in acute and other health care settings, its application for statistical and reimbursement purposes.

10-530-131 HEALTH CARE-QUALITY ...quality management concepts; quality improvement processes; programs and procedures as they relate to medical records; utilization review, risk management, and other healthcare evaluation activities and requirements.

10-530-132 HEALTH STATISTICS ...medical statistical data collection and display including definitions and procedures for computing inpatient census, percentage of occupancy, mortality, autopsies, length of stay, and other rates.

10-530-133 HEALTH INFORMATION TECHNOLOGY-AFFILIATION 1 ...clinical facility assignments designed to allow students to observe, assist, and acquire skills in application of basic health information functions.

10-530-135 HEALTH INFORMATION-LEGAL ...the American legal system; evaluate privacy, confidentiality, privileged communication rights and responsibilities and consent; evaluate health care legislation.

10-530-137 DIAGNOSTIC/PROCEDURAL-CODING 2 ...advanced ICD-9-CM coding skills; their application to the statistical and reimbursement mechanisms used in acute and other health care settings; structure and use of the CPT/HCPCS coding scheme. (Prerequisite: 10-530-124, Diagnostic/Proc Code 1)

10-530-138 HEALTH INFORMATION-RELEASE OF INFORMATION ...legal consents, mechanism for releasing information, medical records as legal documents, and legal procedures in court disclosure of medical record information (Prerequisite: Satisfactory completion of semester 1).

10-530-141 HEALTH INFORMATION AFFILIATION 2 ...application of previously acquired knowledge and skills in clinical experiences with the technical procedures of health record systems in various health care settings.

10-530-142 HEALTH INFORMATION TECHNOLOGY UPDATE ...clinical situations including a review seminar in preparation for accreditation examination, and pre-accreditation/pre-graduation activities.

Heating, Ventilation, Air Conditioning, and Refrigeration Technology

Program Code 106011

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information:(920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Heating, Ventilation, Air Conditioning, and Refrigeration Technology prepares students to work with the control of air in respect to its heating, cooling, humidity, and cleanliness. Students will be able to install, service, troubleshoot, and repair HVAC/R systems.

Graduates of the Heating, Ventilation, Air Conditioning, and Refrigeration Technology Program will be able to:

- Calibrate electronic control systems.
- Install an energy management system.
- Prepare HVAC/R service orders and reports.
- Communicate work performed to the customer.
- Estimate the heating and cooling load of residential and light commercial buildings.
- Troubleshoot HVAC/R motors and starting components.
- Service an hydronic heating system.
- Develop an HVAC/R control circuit.
- Troubleshoot HVAC/R electrical control circuits.
- Determine the integrity of an electrical supply system.
- Install HVAC/R electrical control system components.
- Troubleshoot refrigeration systems.
- Design a low pressure duct system.
- Troubleshoot air flow problems in a duct system.
- Calculate the properties of air using a psychrometric chart.
- Obtain EPA Refrigeration Certification.
- Troubleshoot a rooftop and split HVAC/R systems.
- Troubleshoot an oil fired heating system.
- Troubleshoot a gas fired heating system.
- Commission an energy management system.
- Install a refrigeration piping system.
- Design and install a hydronic piping system.
- Install a hydronic piping system.
- Troubleshoot a pneumatic control system.
- Select equipment to maintain basic ventilation and indoor air quality for residential size systems.
- Calculate refrigeration heat loads.
- Select refrigeration components.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
- High school algebra or equivalent
- NWTC placement exam determines starting level in program

READING LEVEL

Textbook readability within program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the HVAC/R program will have the potential for employment as an HVAC/R Service Technician for a Mechanical Contractor, HVAC/R Facilities Maintenance Department, Equipment Manufacturer or HVAC/R Wholesales, servicing a combination of commercial, industrial and residential HVAC/R systems.

MECHANICAL CONTRACTOR HVAC/R TECHNICIAN: installs, services, troubleshoots, and repairs HVAC/R systems at a customer's job site.

FACILITIES MAINTENANCE HVAC/R TECHNICIAN: installs, services, troubleshoots and repairs HVAC/R systems as part of a maintenance staff.

HVAC/R EQUIPMENT MANUFACTURER TECHNICIAN: assists service companies in locating, repairing, and preventing factory defects and service problems.

WHOLESALE SERVICE REPRESENTATIVE: assists HVAC/R contractors with the selection, application, and procurement of HVAC/R equipment.

COMMERCIALHVAC/R SYSTEMS: require the Technician to work with the HVAC/R systems used in commercial applications such as office buildings, schools, stores, supermarkets, and restaurants. Duties include, but not limited to, installs, services, troubleshoots, and repairs walk-in coolers/freezers; reach-in coolers/freezers; ice makers; large air conditioning, heating, and air distribution systems; hydronic, steam, and forced air heating systems; roof top HVAC/R systems; and digital building automation control systems.

INDUSTRIALHVAC/R SYSTEMS: require the Technician to work with HVAC/R systems used in an industrial setting such as manufacturing, processing, and packaging plants. Duties include, but not limited to, installs, services, troubleshoots, and repairs large HVAC/R equipment used in the manufacturing process, such as drive-in coolers/freezers, process chillers and boilers, dust collection systems, plant air conditioning and heating, digital control of process, and building HVAC/R equipment.

RESIDENTIALHVAC/R SYSTEMS: require the Technician to work with HVAC/R systems used in the home. Duties would include, but not limited to, installs, services, troubleshoots, and repairs refrigerator/freezers, central air conditioning system operating controls.

With additional education and/or work experience, graduates may find other opportunities for employment.
- HVAC/R Business Owner
- Energy Management Technician
- Engineering Assistant for HVAC/R Systems

CURRICULUM

The Heating, Ventilating, Air Conditioning and Refrigeration Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-601-110	Air Conditioning Fund	3
10-601-111	Electrical Fund-HVACR	3
10-601-133	Refrigeration Fund	3
10-606-112	Engineering Applications	1
10-801-196	Oral/Interpers Communication	3
10-804-130	Algebra/Trigonometry	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER

10-601-121	Heating Systems	3
10-601-127	Electrical Control/Sys	3
10-614-126	Architectural Mech Systems	4
10-801-195	Communication-Written	3
10-804-131	Algebra-Inter	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER

10-601-131	Heating System Appl	3
10-601-132	Air Conditioning Appl	3
10-601-147	Motor/Control Applications	3
10-801-197	Reporting-Technical	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-601-135	Hydronic Sys Des/Comm Bldg	3
10-601-141	Heat/Vent/Ac/Refrig Sys	3
10-601-143	Refrigeration Appl	3
10-601-145	Electronic Energy Mgmt Sys	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**18**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-601-110 AIR CONDITIONING FUNDAMENTALS
...factors affecting the comfort zone; basic air distribution principles, heat flow within the occupied zone, grilles,and registers, selection and applications of diffusers, and heat load calculations. (Prerequisite: Accepted into Heating, Ventilation, Air Conditioning and Refrigeration Technology)

10-601-111 ELECTRICAL FUNDAMENTALS-HVAC/R ...electron theory, AC/DC fundamentals, electrical quantities, OHM's Law, magnetic principles, solenoids, meter usage, power generation and distribution, wiring systems and materials, transformers and relays, schematic diagram development, and troubleshooting. (Prerequisite: Accepted into Heating, Ventilation, Air Conditioning and Refrigeration Technology)

10-601-121 HEATING SYSTEMS ...gas heating properties, gas combustion, gas furnaces, gas burners, gas controls, ignition systems, safety and operating controls, installation, venting combustion, air & troubleshooting. (Prerequisites: 10-601-111, Electrical Fundamentals-HVACR; 10-601-133, Refrigeration Fundamentals)

10-601-127 ELECTRICAL CONTROL/SYSTEMS
...power supply and distribution systems; operating and safety control construction, operation, and applications; and the development wiring and troubleshooting of control schematics for basic HVAC/R systems. (Prerequisites: 10-601-111, Electrical Fundamentals-HVACR; 10-601-133, Refrigeration Fundamentals)

10-601-131 HEATING SYSTEM APPLICATIONS
...heat system combustion, analysis of heat system wiring, troubleshooting the mechanical and electrical systems, start up and set up of heat systems, ignition system, and oil system servicing and troubleshooting. (Prerequisites: 10-601-121, Heating Systems; 10-601-127, Electrical Control/Systems)

10-601-132 AIR CONDITIONING APPLICATIONS
...types of HVAC/R systems, psychrometric applications, air flow measurement, various applications of fans, and duct design methods. (Prerequisites: 10-601-121, Heating Systems; 10-601-127, Electrical Control/Systems)

10-601-133 REFRIGERATION FUNDAMENTALS
...safety hazards, principles of refrigeration physics, temperature and pressure measurement, heat content, composition of refrigerants, refrigeration compressors, metering devices, refrigerant recovery techniques, Federal certification preparation. (Prerequisite: Accepted into Heating, Ventilation, Air Conditioning and Refrigeration Technology)

10-601-135 HYDRONIC SYSTEM DESIGN/ COMMERCIAL BUILDING CONTROL SYSTEMS
...layout; application of hydronic piping; fitting/valve application; system design and installation; hydronic flow measurement; pneumatic control basics; control design, application, and set up;, calibration of pneumatic HVAC/R control systems. (Prerequisites: 10-601-131, Heating Systems Applications; 10-601-147, Motor/Control Applications)

10-601-141 HVAC/R SYSTEMS ...analyze, set up, and troubleshoot three-phase motor starting systems, damper actuators, and economizers; advanced service and troubleshooting of commercial and industrial HVAC/R systems; rooftops; chillers; and split systems. (Prerequisites: 10-601-131, Heating Systems Applications; 10-601-147, Motor/Control Applications)

10-601-143 REFRIGERATION APPLICATIONS
...refrigeration components, piping, and system sizing and selection; installation, servicing, and troubleshooting refrigeration systems and controls for residential, commercial, and industrial refrigerator/freezers, walk-in and reach-in coolers/freezers; and ice machines. (Prerequisites: 10-601-131, Heating System Applications; 10-601-147, Motor/Control Applications)

10-601-145 ELECTRONIC ENERGY MANAGEMENT SYSTEMS ...computer control of HVAC/R systems; installation, programming, start-up, and troubleshooting DDC computer-controlled systems; utilizing computers to control building automation, conserve energy, aid in HVAC/troubleshooting and service. (Prerequisites: 10-601-131, Heating System Applications; 10-601-147, Motor/Control Applications)

10-601-147 MOTOR/CONTROL APPLICATIONS
...analyze and troubleshoot single-phase AC induction motors and their starting components used in the HVAC/R industry, including refrigeration compressor motors; set up and test motors under common HVAC/R conditions. (Prerequisites: 10-601-121, Heating Systems; 10-601-127, Electrical Control/Systems)

Descriptions of courses not found on this page can be found in the back of the catalog.

Hospitality and Tourism Management

Program Code 101092

ASSOCIATE DEGREE - TWO YEARS PLUS SUMMER INTERNSHIP

Offered at the Sturgeon Bay Campus. Most course work offered via Interactive Television. Some course work offered via the Internet.

Admissions, registration, or counselor: (920) 743-2207. Course information: (920) 743-2207. Toll free: (800) 422-NWTC, ext. 4900.

PROGRAM DESCRIPTION

Hospitality and Tourism Management prepares students for a variety of mid-management positions in lodging operations, food service operations, and tourism services. The program is grounded in experiential learning and involves extensive internship requirements between the first and second year.

Graduates of this program will be able to:
- Develop a personal hospitality/tourism career plan.
- Prevent accidents and foodborne illness.
- Establish quality customer service systems.
- Manage housekeeping operations in a variety of lodging establishments.
- Maximize productivity in front office operations.
- Apply cooking principles to the preparation of food.
- Maximize profits in food and beverage operations.
- Perform hospitality tasks in an internship setting.
- Apply laws and regulations to hospitality operations.
- Evaluate maintenance operations alternatives.
- Conduct a conference or special event.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High School graduate or equivalent
- Basic math skills
- Keyboarding skills

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

Tourism is Wisconsin's fastest-growing industry and there are many interesting and challenging opportunities for relocating to work throughout Wisconsin, the Midwest, and the United States. A graduate of the program will have the potential for employment in a wide range of positions for a broad variety of hospitality and tourism operations including Front Office Manager, Convention Service Manager, Food Service Manager, Assistant Executive Housekeeper, and Sales Manager.

FRONT OFFICE MANAGER: coordinates the reception and control center for servicing guests, directs and supervises front office staff, and maximizes room revenue through room inventory control.

CONVENTION SERVICE MANAGER: coordinates activities of staff and convention personnel to make arrangements for group meetings and conventions held in a hotel or convention facility.

FOOD SERVICE MANAGER: coordinates food service activities of a hotel/restaurant or similar establishment, plans food service activities, schedules employees, oversees service, and controls costs.

ASSISTANT EXECUTIVE HOUSEKEEPER: supervises housekeeping employees, trains new hires, requisitions supplies, controls inventory, and inspects personnel work assignments.

SALES MANAGER: plans and administers sales programs to generate sales in a hotel or tourism organization, organizes prospect files, plans and prepares advertising and promotional materials, and arranges for publicity.

With additional education and/or work experience, graduates may find other opportunities for employment.
- General Manager
- Executive Housekeeper
- Marketing Director
- Restaurant Manager
- Catering Manager

CURRICULUM

The Hospitality and Tourism Management Associate Degree is a two-year program with summer internships between the first and second year. Students will typically attend classes in four semesters. Semesters one and three will begin the day after Labor Day and run 14 weeks. Semesters two and four will follow the regular semester schedule ending in mid-May. Upon graduation, students will have completed 67 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-109-110	Hospitality/Tourism	2
10-109-111	Food Service Sanitation-App	1
10-109-115	Housekeeping Management	2
10-109-122	Customer/Employee Rel	3
10-109-155	Management-Dining Room	1
10-109-190	Hospitality Portfolio	1
10-801-195	Communication-Written	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
10-101-102	Accounting-Intro	3
10-103-103	Micro Basics MS Office 1	3
10-109-114	Front Office Management	3
10-109-123	Foods-Basic Principles	4
10-109-124	Food/Bev Cost Control	3
	SEMESTER TOTAL	**16**

SUMMER INTERNSHIP)

Course No.	Description	Credits
10-109-191	Hospitality Tourism-Intern	4
	SEMESTER TOTAL	**4**

THIRD SEMESTER

Course No.	Description	Credits
10-104-110	Marketing Principles	3
10-109-142	Hospitality Law/Liabil	3
10-801-196	Oral/Interpers Communication	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**15**

FOURTH SEMESTER

Course No.	Description	Credits
10-109-150	Facilities Management	2
10-109-151	Special Events Planning	2
10-196-110	Supervision Principles	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**16**

SUGGESTED ELECTIVES: Beverage Management (10-109-163), Hospitality-Purchasing (10-109-162), Restaurant Operations Management (10-109-166).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-109-110 HOSPITALITY/TOURISM ...scope of industry, career planning, restaurant segments, food service operations, institutional food service, lodging segments, lodging operations, current issues/forces, tourism industry components, destinations, transportation, role of service, future considerations.

10-109-111 FOOD SERVICE SANITATION-APPLIED ...contamination/foodborne illness, safe food handler, food safety systems, purchasing, receiving, storage, preparation, serving, facilities, equipment, cleaning and sanitation, cleaning program, pest control, accident prevention, crisis management, sanitation regulations/standards.

10-109-114 FRONT OFFICE MANAGEMENT ...lodging classification, ownership/affiliation, hotel/front office organization, equipment, reservations, registration, guest services, guest accounting, credit monitoring, check-out/settlement, night audit, management functions, room statistics, yield management, staffing.

10-109-115 HOUSEKEEPING MANAGEMENT ...staffing, housekeeping operations, facilities safety and security, cleaning routines, materials selection, laundry operations.

10-109-122 CUSTOMER/EMPLOYEE RELATIONS ...service philosophy, service roles and relationships, service strategies, service tools, personal and professional development, internal service strategies, unique characteristics of hospitality service organizations.

10-109-123 FOODS-BASIC PRINCIPLES ...food composition, cooking methods, tools/equipment, nutrition, menu, recipe standardization, eggs/dairy, stocks/sauces, soups, meats, poultry/seafood, vegetables, starches, salads, fruits, baked goods, beverages, food preservation.

10-109-124 FOOD/BEVERAGE COST CONTROL ...organization, control function, specifications, standard portion control, menu costing, CVP analysis, purchasing, receiving, preparation, storage, requisitioning, production, service, inventory control, labor control, sales revenue controls, theft.

10-109-142 HOSPITALITYLAW/LIABILITY ...hospitality laws and regulations, duty to receive patrons, duty to protect patrons, crimes, employment law, contracts, property rights, forms of business organization, attorney relationship, settlement of legal disputes.

10-109-150 FACILITIES MANAGEMENT ...role of facilities management, budgeting, water/ wastewater systems, electrical systems, HVAC systems, laundry, telecommunications, safety/ security systems, waste management, equipment maintenance, energy management, building/ facilities, facility design, renovation.

10-109-151 SPECIAL EVENTS PLANNING ...special event marketing, promotions meeting target markets, contract details and considerations, function preparations, special equipment and service needs, staging the event. Students will achieve certification from the Educational Institute of the American Hotel and Motel Association.

10-109-155 MANAGEMENT-DINING ROOM ...professional server behaviors, service mise en place, banquet, buffet, and classic service styles, proper dining etiquette, bar and beverage service, meal service, dining room management.

10-109-190 HOSPITALITYPORTFOLIO ...portfolio development process, documentation, production assembly and presentation.

10-109-191 HOSPITALITY TOURISM-INTERNSHIP ...planning and preparation, career advancement plan, locating an internship provider, work habits, job performance, job evaluation, progress reporting, networking, final report, program evaluation.

10-196-110 SUPERVISION PRINCIPLES ...supervisor's role, planning, problem solving, organizing/staffing/training/retraining employees, motivation, evaluating performance, challenging employees, teamwork, controlling work, discipline, productivity, quality, and diversity

Descriptions of courses not found on this page can be found in the back of the catalog.

Individualized Technical Studies

Program Code 108251

ASSOCIATE DEGREE - FULL-TIME, PART-TIME

Offered at the Green Bay campus, Admissions, registration, or counselor: (920) 498-5498. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Individualized Technical Studies program is intended for currently employed individuals who have a specific career objective that cannot be met by existing degree programs. By combining state board approved courses from two or more major areas of study, the student, along with an occupational advisor, designs an occupational degree program into a unique Associate Degree.

The Individualized Studies Degree has two objectives:

• Provide flexibility in programming in order to meet the educational needs of individuals based on their particular career goals;
• Emphasize an individual's career goals that cannot be achieved through enrollment in any single instructional program currently available at the college.

As part of the educational process, each student is required to complete a personal program portfolio outlining his or her career objectives and the courses required to meet those objectives. This student portfolio, together with a completed application for admission, becomes part of the review process used by the NWTC Individualized Technical Studies committee to admit the student for a customized technical studies program.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. See the Admissions section of this catalog for more information.

• Good reading, writing, and math skills
• Math and reading assessments
• Completion of all recommended activities to address math and reading skills deficiencies

READING LEVEL

Textbook readability within this program has an average reading level of 12th grade.

MATH LEVEL

Students should have mastered basic math before entering this program. For a description of basic math, see the Basic Education section of this catalog Selection of specific courses within a program may have higher-level math requirements and should be discussed with the program counselor.

EMPLOYMENT POTENTIAL

With the growth of employment opportunities in small and mid-sized firms, employers increasingly seek workers able to take on multiple tasks and roles that cut across traditional occupational categories. With the introduction of new kinds of technologies and work processes, occupational duties and the competencies needed in the workplace are constantly in flux.

To be productive and effective in today's workplace, workers may need skills and knowledge drawn from a variety of traditional disciplines.

This program allows students to design a customized instructional program leading to an Associate of Applied Science Degree in Technical Studies. The individualized program will have a specific occupational focus designed by the student in consultation with an occupational mentor, district faculty, and career advising staff.

The program requires the identification of an occupation advisor who will assist the student in specifying skill competencies and occupational outcomes for a specific occupational area.

CURRICULUM

Total credits for the Individualized Technical Studies program will range from 64-72 credits depending on the personal program portfolio selected. Admission to the program must be approved prior to completion of 32 credit hours.

Program requirements must include:

Course Description	Credits
Individualized Technical Studies Core	40-48

A minimum of 40 credits of individualized technical studies is required and may be drawn from all divisions of the college. A minimum of 20 credits must be focused on one discipline. The selection of courses must be relevant to the student's career goals and should provide sufficient hours of concentration in one or two specific technical areas to ensure technical competence in achieving the desired occupational goals. Prerequisites must be met.

Course No.	Description	Credit
Communications (Select at least two)		**6**
10-801-195	Communication-Written	3
10-801-196	Communication-Oral/Interpersonal	3
10-801-197	Technical Reporting	3
	(Prerequisite: Written Communication)	
10-801-198	Speech	3
Social Science (Select at least one)		**3**
10-809-195	Economic	3
10-809-196	Introduction to Sociology	3
10-809-197	Contemporary American Society	3
Behavioral Science (Select at least one)		**3**
10-809-198	Introduction to Psychology	3
10-809-199	Psychology of Human Relations	3

Select 3 additional credits from the above list to complete the General Education course requirements. **3**

Course No.	Description	Credit
Math/Science Requirements (Select one)		**3**
10-804-120	Tech Algebra	3
10-804-130	Algebra/Trigonometry	3
10-806-150	Physics 1-Technical	3
10-806-182	Anatomy/Physiology	3
10-804-101	Business Math	3
	Elective	**3**
	Elective	**3**
Total Program Credits		**64-72**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-801-195 COMMUNICATION-WRITTEN ...the nature and scope of technical writing, document design, graphics, ethics of the writing process, definition, description, memos, business letters, resume and cover letter, instructions, summaries, and short reports.

10-801-196 COMMUNICATION-INTERPERSONAL ...the communication process, perception and self-concept, language, listening, nonverbal communication, interpersonal relationships, communication in groups and public communication; prepare and deliver two speeches and one group presentation.

10-801-197 REPORTING-TECHINCAL ...principles of report writing and correspondence, proposals, feasibility reports, progress reports, investigation reports, evaluation reports, meeting reports, memos, and correspondence. (Prerequisite: 801-195)

10-801-198 SPEECH ...fundamentals of effective oral presentation to small and large groups: topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques, and the listening process.

10-809-195 ECONOMICS ...scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues.

10-809-196 SOCIOLOGY-INTRODUCTION ...the nature and variety of groups; inequality, race and ethnicity; family, population, social integration, and change; collective behavior; politics, economics, religion, education, and the effects of technology.

10-809-197 SOCIETY-AMERICAN CONTEMPORARY ...the major social institutions within the American society: government, family, education, religion, and economic system.

10-809-198 PSYCHOLOGY-INTRODUCTION ...survey of theoretical foundations of human behavior such as sensation and perception, motivation, emotions, learning, personality, psychological disorders, therapy, stress, and human diversity in personal, social and vocational settings.

10-809-199 PSYCHOLOGY-HUMAN RELATIONS ...decision making, motivation, conflict resolution, learning strategies, growth and adjustment, diversity, psychological theories, relationships, psychological disorders, stress, career analysis, social psychology, and lifespan development.

Descriptions of courses not found on this page can be found in the back of the catalog.

Industrial Mechanic

Program Code 314622

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Industrial Mechanic prepares students to evaluate machine performance, identify trouble areas, and repair systems.

Graduates of the Industrial Mechanic Program will be able to:
- Interpret the elements of mechanics.
- Use measuring devices.
- Use hand, stationary, and portable power tools.
- Prepare mounting bases for machine installation.
- Identify threaded fasteners and various locking and holding devices.
- Identify types of structural steel shapes.
- Apply safety requirements to rigging an object.
- Install pipe.
- Classify valves used in a piping system.
- Describe the difference between machine, carbon, and alloy steels.
- Identify types of bearings.
- Apply lubricants.
- Demonstrate parallel shaft alignment.
- Use chain drive component terminology.
- Identity types of gears.
- Identify types of couplings.
- Use electrical motors.
- Identify pipe classifications, demonstrate correct pipe assembly and installation procedures.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of the catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics, science, and industrial education

READING LEVEL

Textbook readability within this program has an average level of 11th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an Industrial or Maintenance Mechanic, Machine Adjuster, Machine Assembler, Machinery Erector, and Machinery Repairer.

INDUSTRIALOR MAINTENANCE MECHANIC: installs, repairs, and maintains the operating condition of industrial production and processing machinery.

MACHINE ADJUSTER: adjusts and maintains machinery for optimum manufacturing production.

MACHINE ASSEMBLER: assembles machines, equipment, and their subassemblies following blueprints and assembly procedures.

MACHINERY ERECTOR: erects and tests machinery and heavy equipment, replaces defective parts of a machine, adjusts clearances and alignment of moving parts, and dismantles machinery and equipment for shipment to the installation site.

MACHINERY REPAIRER: inspects, maintains, repairs, and adjusts machinery and equipment in order to insure its proper operation in the various industries.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Lead Mechanic
- Maintenance Supervisor
- Master Mechanic
- Millwright

CURRICULUM

The Industrial Mechanic Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 34 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-420-314	Machine Shop-Basic	4
31-421-355	Blueprint Rdg/Sket-Indus	2
31-462-305	Mechanic 1-Industrial	5
31-462-306	Mechanic- 2nd Qtr Industrial	5
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
31-442-365	Welding-Industrial	3
31-462-325	Mechanic 2-Industrial	10
31-462-356	Hydraulics-Industrial	2
31-801-385	Communicating-Writing	1
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-420-314 MACHINE SHOP-BASIC
...lathe/drilling/milling machines, shapers, grinding machines, tool sharpening, bench work layout, measuring, inspection techniques, and machine part repair/fabrication.

31-421-355 BLUEPRINT READING/SKETCHING-INDUSTRIAL MECHANIC ...orthographic/ isometric sketching, multiview print reading, dimensioning and tolerancing, section/auxiliary views, weld symbols, piping/hydraulic prints, and electric motor prints.

31-442-365 WELDING-INDUSTRIAL
...oxyacetylene process, oxyacetylene welding, brazing, cutting, metal arc welding, gas metal arc welding, and gas tungsten arc welding (ferrous and non-ferrous metals).

31-462-305 MECHANIC 1-INDUSTRIAL ...basic elements of mechanics: precision measurements, safe use of hand and power tools, industrial lift truck operation, sheet metal layout and fabrication, machine mounting bases mechanical fasteners.

**31-462-306 MECHANIC-INDUSTRIALII**
...Structural steel nonmenclature and installation, safe and proper use of scaffolding, rigging and weight estimation, maintenance of hand and cutting tools, speciality tool fabrication, piping systems, and tubing sytems.

31-462-325 MECHANIC 2-INDUSTRIAL ...basic metallurgy, machine/mechanical device maintenance, machine drive component installation/ alignment/timing/ synchronization, defective machine part ordering/replacement, machine rigging, drive components, bearings, belts, chain drives, and gears.

31-462-356 HYDRAULICS-INDUSTRIAL
...hydraulic/pneumatic system maintenance, hydraulic pump repair, motors, controls, actuators, and pneumatic components.
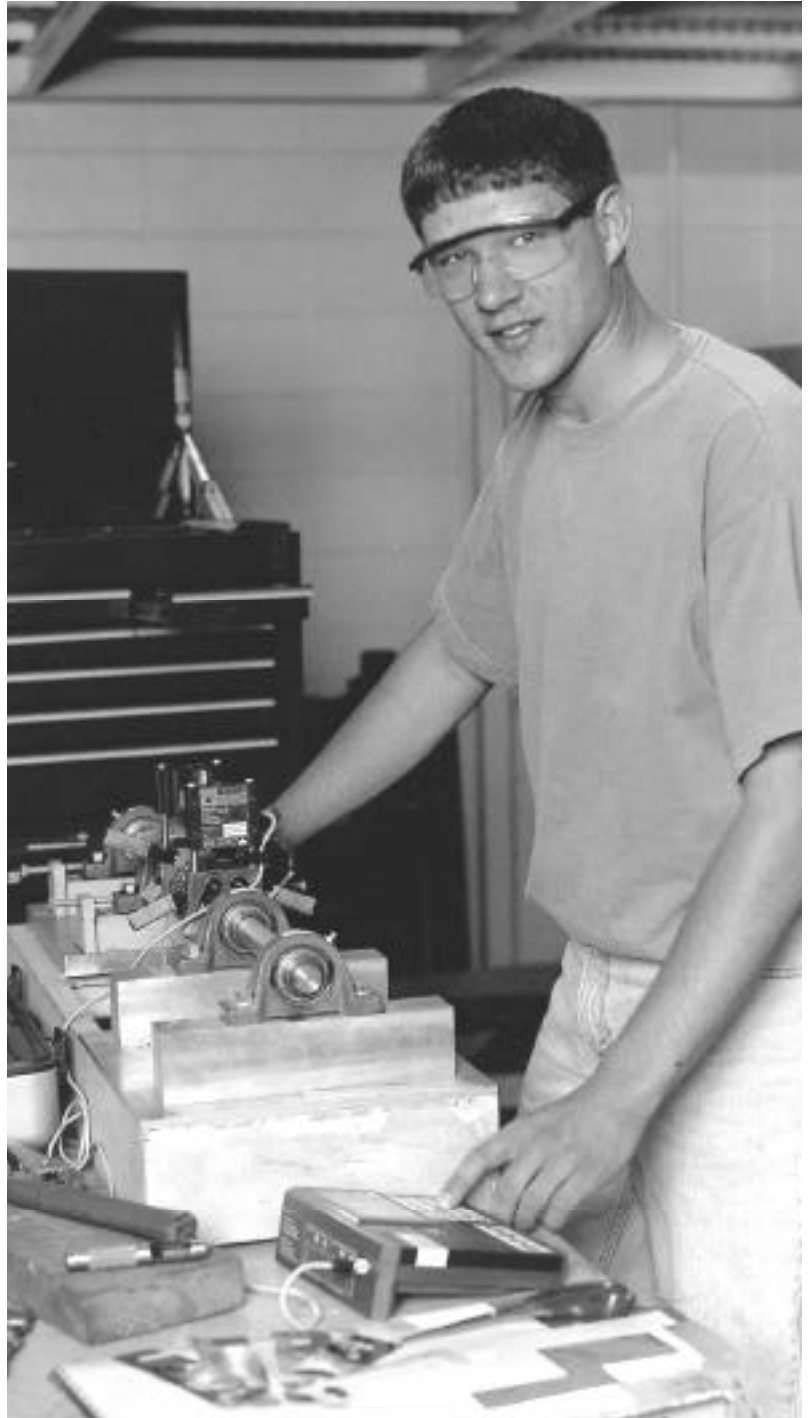
Descriptions of courses not found on this page can be found in the back of the catalog.

Jewelry Repair and Fabrication

Program Code 314411

TECHNICAL DIPLOMA - NINE MONTHS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Jewelry Repair and Fabrication Program prepares students to design, create, and repair jewelry by applying a variety of manufacturing and fabrication processes and techniques.

Graduates of the Jewelry Repair and Fabrication Program will be able to:
- Find employment in the jewelry field.
- Perform basic bench jeweler tasks/ functions.
- Explain repair work to customer.
- Set stones
- Produce jewelry using basic jewelry manufacturing skills.
- Identify characteristics of precious metals and gem stones.
- Produce finished jewelry pieces.
- Express ideas through jewelry illustrations.
- Perform jewelry sales associate skills.
- Adapt computer skills acquired as a student to the jewelry industry standards.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other test.)
- Basic math defined as addition, subtraction, multiplication and division.

READING LEVEL

Textbook readability within this program has an average level of 10th grade.

MATH LEVEL

Students should have mastered basic math skills and have an awareness of algebraic formulas. For description of basic math and algebra, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

Agraduate of the program will have the potential for employment as a Stone Setter, Bench Jeweler, Goldsmith, Silversmith, Jewelry Designer, and Jewelry Sales Representative. Graduates in these occupations repair and/or fabricate jewelry according to customer and/or owner specifications.

STONE SETTER: is a jeweler who has specialized in the setting of stones in mountings, and demonstrates a high skill level, achieved with practice.

BENCH JEWELER: repairs jewelry, with fabrication, stone setting, and manufacturing skills.

GOLDSMITH: works with gold in the repair and manufacture of jewelry.

SILVERSMITH: works with silver in the repair and manufacture of jewelry, utilitarian, and decorative items.

JEWELRY DESIGNER: provides artistic drawings of jewelry designs that meet customer and/or owner approval.

JEWELRY SALES REPRESENTATIVE: sells retail or wholesale jewelry, tools, and/ or equipment.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Appraiser
- Graduate Gemologist
- Certified Gemologist
- Gold Metallurgist
- Hand Engraver
- Jewelry Department Manager
- Jewelry Store Owner
- Trade Shop Owner
- Jewelry Equipment Representative

CURRICULUM

The Jewelry Repair and Fabrication Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-101	PC: Overvw Using Word/Excel	1
31-111-310	Jewelry Design/Illustrate	2
31-441-310	Jewelry Repair/Manuf 1	9
31-441-315	Gemology/Precious Metals	4
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**17**

SECOND SEMESTER

31-104-313	Retail Merchandising	3
31-441-320	Jewelry Repair/Manuf 2	9
31-441-327	Gemology/Power Engraving	3
31-801-385	Communicating-Writing	1
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

Graduates completing core courses with a C or better will be awarded Certification of Jewelers of America Bench Jeweler Technical: First Level.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-441-310 JEWELRY REPAIR/ MANUFACTURING 1 ...common metals, hand tools, equipment; casting, fabricating, basic jewelry repair; basic stone setting; fabrication of rings, and production of finished jewelry pieces in brass alloy, silver, and/or gold objects.

31-441-315 GEMOLOGY/PRECIOUS METALS ...gemological equipment classification, stone physical/optical property determination, stone setting procedures, precious metal content, soldering determination, gold alloys, and gold refinement.

31-441-320 JEWELRY REPAIR/ MANUFACTURING 2 ...variety of manufacturing techniques, different jewelry repair; advanced stone setting techniques on brass alloy, silver, and/or gold objects.

31-441-327 GEMOLOGY/POWER ENGRAVING ...scroll design layout, power hand engraver cutting, power graver stone setting, physical/ optical property gem stone identification, and gem stone setting procedures.

Descriptions of courses not found on this page can be found in the back of the catalog.

Laboratory Technician

Program Code 105063

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free:(800) 422-NWTC.

PROGRAM DESCRIPTION

Prepares Laboratory Technician in science based jobs including food, environmental, paper, petroleum and paint industries. Instruction includes sampling procedures, performing chemical, instrumental, microbiological and physical tests. Records and interprets data.

Graduates of the Laboratory Technician Program will be able to:

- Recognize a variety of laboratory settings
- Interpret food, environmental, paper and petroleum laws and regulations.
- Recognize impacts on natural resources
- Establish and maintain documentation
- Incorporate quality assurance, and interpret quality control in laboratory testing and management
- Read and interpret technical articles and literature
- Collect data; calculate, report, and interpret results
- Discard waste properly
- Maintain work station
- Collect, transport, store, and prepare samples for analysis
- Prepare media, reagents, standards, solutions, and labware
- Use aseptic technique to isolate, enumerate, and identify microorganisms
- Calculate the concentration of microorganisms
- Set up and maintain instruments
- Analyze with wet chemistry and instrumentation to detect physical properties and/or chemical composition of samples
- Detect the presence or absence of chemicals
- Conduct a taste panel
- Conduct a shelf life study
- Prioritize work schedule
- Follow safety requirements
- Explain the rationale for laboratory analysis

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High School Algebra or Math-Tech Algebra (804-120) within the last 5 years
- High School Chemistry or Basic Chemistry (806-155) within the last 5 years

READING LEVEL

Textbook readability within program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Laboratory Technician in a variety of settings including industrial and government agencies. Technicians perform chemical, physical, microbiological, and sensory tests on food, environmental, paper, and petroleum samples using approved methods to generate accurate data.

The data is used for decision-making and planning by many levels of an organization.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Laboratory Supervisor
- Government Inspector
- Sanitarian
- Process Engineer
- Procurement Agent
- Food Technologist
- Laboratory Manager
- Paper Technologist
- Petroleum Technologist
- Paint Technologist

NOTE: Some courses are offered in modules, please call for details.

CURRICULUM

The Laboratory Technician Associate Degree is a two-year, four-semester program. Upon graduation a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-103	Micro Basics MS Office 1	3
10-506-111	Laboratory Prin/Std	3
10-506-112	Lab Bench Skills	3
10-801-196	Oral/Interpers Communication	3
10-806-165	Chemistry-Intro	5
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-065-120	Science-Food	2
10-506-113	Lab Field Survey	1
10-506-120	Science-Environment	2
10-506-122	Chemistry-Analytical Tech 1	4
10-623-144	Statistical Proc Control	3
10-801-195	Communication-Written	3
10-806-194	Microbiology	3
	SEMESTER TOTAL	**18**

THIRD SEMESTER

10-065-141	Microbiology-Food	5
10-506-132	Chemistry-Analytical Tech 2	4
10-506-133	Lab Quality Assurance Contr	3
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-506-142	Chemistry-Analytical Tech 3	4
10-506-143	Sensory Methods	2
10-801-197	Reporting-Technical	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**15**

This program is fully eligible for financial aid.

SUGGESTED ELECTIVES: Food Field Study (10-065-185), Environment Field Study (10-506-185).

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-065-120 SCIENCE-FOOD ...definition of food science, food components, steps in processing; manufacture of dairy, vegetable, fruit, meat, grain, and confectionery products; additives, laws, and biotechnology.

10-065-141 MICROBIOLOGY-FOOD ...media preparation; aseptic technique; quality control; aerobic count; coliform count; yeast and mold count; sanitation audit; starter cultures; and rapid and standard methods for isolation, identification, and enumeration of pathogens. (Prerequisite: 10-806-194, Microbiology-General)

10-506-111 LABORATORY PRINCIPLES/ STANDARD ...fundamental standard laboratory techniques and equipment; hazards; safety and first aid; material safety data sheets; and government regulations related to laboratories, food, and the environment.

10-506-112 LAB BENCH SKILLS ..."the bench"-industry term for workstation-application of computation in a lab setting using lab equipment and computers for environmental, food, and other labs.

10-506-113 LAB FIELD SURVEY ...various non-medical labs by touring them, decribing work flow, tests, safety standards.

10-506-120 SCIENCE-ENVIRONMENT ...scientific methods, ecosystems, material cycles, soils, sources, and sinks of chemicals in the environment; toxicology, transport of pollutants, water treatment, risk assessment, solid wastes, energy, local issues, and global future.

10-506-122 CHEMISTRY-ANALYTICALTECH 1 ...gravimetric analysis for moisture content; use of electrodes; titrimetric analysis for acidity, water hardness, chlorine, and salt content; spectroscopy; chromatography and high pressure liquid chromatography (HPLC).

10-506-132 CHEMISTRY-ANALYTICAL TECH 2 ...applications of HPLC and atomic absorption spectroscopy; measurement of cyanide, physical properties, turbidity, conductivity, oxygen demand, phosphorus, nitrogen, fiber, and lipids.

10-506-133 LAB QUALITYASSURANCE CONTROL ...management practices; documentation; random assignable cause; statistical process control; normal distribution calculations; sampling plans; hazard analysis of critical control points; quality tools; method detection limits; state, national, and international standards.

10-506-142 CHEMISTRY-ANALYTICAL TECH 3 ...applications of gas chromatography, infrared spectroscopy, and measurement of solids in environmental samples.

10-506-143 SENSORY METHODS ...physiology and measurement of color, odors, flavors, and texture; conducting and statistical interpretation of a taste panel and shelf life project; functionality, viscosity, grading can defects, and rancidity.

Descriptions of courses not found on this page can be found in the back of the catalog.

Landscape Horticulture Technician
Program Code 100014

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Landscape Horticulture Technician program prepares a student for employment in the Horticulture industry. (Instruction will focus on Landscape designing and building skills.)
Graduates of the Landscape Horticulture Technician Program will be able to:
• Communicate within the Horticulture industry.
• Identify horticulture plants, insects, and diseases.
• Identify weeds.
• Define high, medium, and low light plants.
• Propagate horticulture plants.
• Determine and execute IPM (Integrated Pest Management.)
• Execute plant diagnostic skills.
• Figure plant treatment formulations, mix and apply.
• Plant and prune.
• Sketch landscape concepts and ideas.
• Design and build landscapes.
• Write project estimates.
• Operate a transit.
• Use carpentry hand and power tools.
• Use masonry hand and power tools.
• Safely operate landscape equipment.
• Design and install irrigation equipment.
• Set automated operation systems.
• Use landscape hand tools.
• Use computerized GIS (Global Information System).
• Operate a computer hardware system.
• Use CAD (Computer Aided Design).
• Develop and deliver a landscape design presentation.
• Execute a customer sale.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

READING LEVEL

Textbook readability within this program has an average reading level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Landscape Horticulture Technician in a variety of settings.

LANDSCAPE HORTICULTURE TECHNICIAN: performs pencil sketching of common ideas, designs landscapes; builds and installs hardscapes and plants; writes cost estimates for labor and materials, performs ground maintenance, safely operates landscape and construction equipment. Has working knowledge of the safe use of pesticides.

With additional education and/or work experience, a graduate may find employment as:
• Grounds Manager
• Sales Representative
• Garden Center Manager
• Pest Control Specialist
• Garden Center Specialist
• Golf Course Maintenance Assistant
• Lawn Care Equipment Operator
• Turf Technician

CURRICULUM

The Landscape Horticulture Technician Associate Degree is a two-year, four-semester program. Upon graduation, students will have completed 69 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-001-110	Horticulture-Intro	3
10-001-158	Plant-Woody Ornamental 1	3
10-001-159	Flowers-Herbaceous 1	3
10-001-170	Pest Management-Integrated	2
10-001-172	Landscape Maintenance	2
10-606-112	Engineering Applications	1
10-606-119	Sketching-Technical	2
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
10-001-120	Plant Nutrition/Fertilizers	1
10-001-153	Plant Culture/Soil Fund	3
10-001-154	Turf Management 1	3
10-001-174	Landscape Design Fund 1	3
10-606-113	CAD	2
10-804-120	Math-Tech Algebra	3
	Elective	3
	SEMESTER TOTAL	**18**

THIRD SEMESTER

Course No.	Description	Credits
10-001-180	Landscape Construction 1	2
10-001-184	Landscape Design 2	3
10-104-106	Retail Sales Mgmt	3
10-801-196	Oral/Interpers Communication	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

Course No.	Description	Credits
10-001-115	Landscape-3D Models	4
10-001-181	Landscape Construction 2	3
10-001-182	Irrigation	2
10-801-195	Communication-Written	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Golf Course Management (10-001-150), Plant Diagnostic Skills (10-001-140), Plant Interior (10-001-130), Plant Propagation (10-001-121).

This program is fully eligible for financial aid.

NORTHEAST WISCONSIN **100** TECHNICAL COLLEGE

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-001-110 HORTICULTURE-INTRODUCTION ...explore the horticulture industry, plant culture, identification, propagation, physiology, selected aspects of horticulture industry including fruits, vegetables, ornamentals, greenhouse systems, landscape techniques, home gardens, and turf.

10-001-115 LANDSCAPE-3D MODELS ...utilizing sketching, landscape 3D CAD design software, develop and build models to scale featuring in-detail land topography, buildings, hardscape, and plants for presentation.

10-001-120 PLANT NUTRITION/FERTILIZERS ...nutritional needs of turfgrasses and ornamentals, special emphasis will be placed on various types of fertilizers and fertilizer programs.

10-001-154 TURF MANAGEMENT 1 ...identification of turf grass; maintenance and establishment of various turf grasses according to planned use; problems associated with home lawns, golf courses, other use areas; also maintenance practices.

10-001-158 PLANT-WOODY ORNAMENTAL 1 ...physiology, culture, identification, and use of primarily temperate woody plant materials appropriate for landscapes in northeastern Wisconsin.

10-001-159 FLOWERS-HERBACEOUS 1 ...annuals/perennials/roses; using flowers/foliage effectively in the landscape; care of each flower emphasizing selection/tips to best utilize each flower; groundcover/vines included.

10-001-170 PEST MANAGEMENT-INTEGRATED ...various methods to combat plant pests in an environmentally responsible manner; techniques and strategies.

10-001-172 LANDSCAPE MAINTENANCE ...identifying problems and cultural challenges in the landscape; pruning techniques, insect/disease problems, weed identification; soil fertility; resolve situations in the field.

10-001-174 LANDSCAPE DESIGN FUNDAMENTALS 1 ...residential design methods utilizing outdoor room concepts: function, design principles, and composition in developing a landscape plan; drafting, site analysis, graphics.

10-001-180 LANDSCAPE CONSTRUCTION 1 ...site conditions, landscape tools, design plan implementation.

10-001-181 LANDSCAPE CONSTRUCTION 2 ...working with landscape construction methods.

10-001-182 IRRIGATION ...irrigation practices, procedures, and equipment in the turf and landscape industry; design, installation, and operation of irrigation systems and components.

10-001-184 LANDSCAPE DESIGN 2 ...design and detail landscape projects with construction documents and estimates. Focus on specialty landscape.

Descriptions of courses not found on this page can be found in the back of the catalog.

Logistics Program Code 101822

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Logistics prepares students in all activities involved in the flow of goods from the point of origin to the point of consumption. Specific areas include transportation, inventory control, materials management, purchasing, international trade, customer service, and logistics management.

Graduates of this program will be able to:
- Compare major transportation modes.
- Respond appropriately to requests for transportation services.
- Perform inventory control.
- Demonstrate familiarity with global trade processes.
- Develop a global business perspective.
- Plan a product using a manufacturing resource planning process.
- Perform supplier selection and evaluation.
- Demonstrate negotiation skills.
- Track commodity market trends.
- Perform logistical mathematical calculations.
- Apply legal and ethical standards pertaining to logistics.
- Monitor service, quality, and cost performance.
- Demonstrate knowledge of the application of supply chain concepts.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate in the program will have the potential for employment as a Buyer/Planner, Claims Analyst, Customer Service Representative, Dispatcher, Inventory Analyst, Inventory Control Specialist, Materials Planner, Production Scheduler, Purchasing Assistant, Rate Analyst, Shipping and Receiving Specialist, and Warehouse Specialist.

BUYER/PLANNER: coordinates activities between purchasing and manufacturing scheduling.

CLAIMS ANALYST: performs duties in the risk management process including over, short, and damage incidents and claims.

CUSTOMER SERVICE REPRESENTATIVE: communicates with customers in order to match customer needs with vehicle and driver availability, deals with customer inquires, expedites freight, and tracks orders.

DISPATCHER: assigns freight to routes, assigns vehicles and routes to drivers, and handles exceptions.

INVENTORY ANALYST: compiles and manages information of amount, kind and value of merchandise, material or stock on hand to obtain optimum inventory balance, price, and costs.

INVENTORY CONTROLSPECIALIST: coordinates inventory issues with purchasing, production, and marketing; tracks current and forecasted levels of inbound and finished goods inventory.

MATERIALS PLANNER: coordinates and expedites flow of manufacturing materials, parts, and assemblies with or between departments or plants in accordance with production and shipping schedules.

PRODUCTION SCHEDULER: creates master production schedule and work orders; establishes priorities for current and forecasted customer demand; establishes availability or capacity of workers, parts, machinery, and equipment.

PURCHASING ASSISTANT: performs basic activities related to supplier evaluation and selection, product specifications, order quantities, and delivery requirements.

RATE ANALYST: compiles and computes freight rates, passenger fares, and other charges for transportation services according to rate tables and transportation regulations.

SHIPPING AND RECEIVING SPECIALIST: coordinates the flow of raw materials and finished goods to meet production and customer requirements and works with transportation carriers to assure timely and accurate pickup and delivery.

WAREHOUSE SPECIALIST: manages the flow of inventory into and out of a storage facility or distribution center and works with owners of the inventory to meet inventory level and customer service needs.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Account Manager
- Logistics Manager
- Materials Manager
- Production and Inventory Control Manager
- Purchasing Manager
- Traffic Manager

CURRICULUM

The Logistics Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 66 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-103	Micro Basics MS Office 1	3
	OR	
10-103-121	Micro: Word-Introduction	1
	AND	
10-103-132	Micro: Excel-Part 2	1
	AND	
10-103-141	Micro: Access-Intro	1
10-182-110	Resource Planning/Control	3
10-182-150	Global Business	3
10-182-157	Logistics Management	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	15

SECOND SEMESTER

10-101-141	Accounting-Financial	3
10-104-191	Customer Service Mgmt	3
10-182-109	Transportation-Intro	3
10-182-120	Manufacture-Resource Plan	3
10-801-195	Communication-Written	3
10-809-195	Economics	3
	SEMESTER TOTAL	18

THIRD SEMESTER

10-104-110	Marketing Principles	3
10-182-127	Purchasing	3
10-182-130	Logistics Information Systems	3
10-801-196	Oral/Interpers Communication	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	18

FOURTH SEMESTER

10-182-116	Transportation Admin	3
10-182-141	Logistics Internship	3
10-182-186	Export/Import	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	15

SUGGESTED ELECTIVES: Warehousing (10-182-172), Management of Resources-Strategic (10-182-154), Master Planning-Resources (10-182-155), Business GIS (10-102-159).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

The Logistics Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 66 credits.

10-104-191 CUSTOMER SERVICE MANAGEMENT ...develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, set complaint policies, and develop communication techniques to handle complaining customers.

10-182-109 TRANSPORTATION-INTRODUCTION ...framework, role, and historical development of transportation; characteristics of railroad, truck, and air transportation; and the pipeline industry.

10-182-110 RESOURCE PLANNING/CONTROL ...planning and control of materials into, through, and out of manufacturing systems; forecasting; master planning; material requirements; capacity; production activity control; purchasing; inventory management; physical distribution; quality management; and Just-In-Time.

10-182-116 TRANSPORTATION ADMINISTRATION ...fundamentals of the administrative aspects of transportation operation; hands-on exercises in freight classification, tariffs, carrier pricing schedules, rates, bills of lading, contracts, and freight claims.

10-182-120 MANUFACTURE-RESOURCE PLANNING ...philosophy and techniques used in Material Requirements Planning and Manufacturing Resource Planning II including hands-on use of personal computer software to enhance understanding.

10-182-127 PURCHASING ...role of purchasing in business, industry, and the community; legal and ethical aspects of purchasing including systems, staffing, price/cost analysis, forecasting, and dealing with vendors.

10-182-130 LOGISTICS INFORMATION SYSTEMS ...decision support systems; integrated supply chain information technology; ERPsystems requirements/selection/implementation; supply chain operations reference; geographic information systems; global positioning systems; electronic commerce; operations research and project management tools/techniques.

10-182-141 LOGISTICS INTERNSHIP ...training and experience through actual work experience and observation.

10-182-150 GLOBAL BUSINESS ...international business and the global economic environment: fundamental international business activities, and the economic, cultural, and political factors that affect international business.

10-182-157 LOGISTICS MANAGEMENT ...basic concepts, management levels, elements of inventory control, transportation, warehousing, packaging, material handling and purchasing, and the role order processing plays in the distribution cycle.

10-182-186 EXPORT/IMPORT ...overview of international trade: entering the overseas market, distribution, payment, letters of credit, shipping documents, importing, customs house brokers, government requirements, and sources of assistance and information.

Descriptions of courses not found on this page can be found in the back of the catalog.

Machine Tool Operation Program Code 314201

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay and Marinette campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Machine Tool Operation prepares students to operate machine tools such as engine lathes, milling machines, drill presses, and computer or numerical control machines.

Graduates of the Machine Tool Operation Program will be able to:
- Be successfully employed in the trade.
- Safely setup and operate drill presses.
- Safely setup and operate engine lathes.
- Safely setup and operate horizontal and vertical milling machines.
- Safely setup and operate grinding machines.
- Safely setup, operate, and program computer numerical control milling machines.
- Safely setup, operate, and program computer numerical control turning machines.
- Use semi-precision and precision measuring tools to create parts that meet dimensional specifications shown on part prints.
- Accurately read and interpret blueprints.
- Make mathematical calculations related to machine trades.
- Use a computer-aided manufacturing program to create part profiles and machine code.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Computer Numerical Controlled (CNC) Operator, Machine Set-Up Operator, Machine Tool Operator, Machinist, or Maintenance Machinist. CNC OPERATOR: sets up and operates computer numerical controlled machine tools working from blueprints and set-up sheets, sets up fixturing and tooling, produces and inspects parts, and edits CNC programs on lathes and machine centers.

MACHINE SET-UPOPOPERATOR: sets up and operates a variety of machine tools such as radial drill presses, lathes, milling machines, and grinders; machines metal work pieces, tool, or die parts; analyzes specifications; and determines tooling.

MACHINE TOOL OPERATOR: shapes metal to precise dimensions by using machine tools and operates machines such as lathes, milling machines, drill presses, and computer numerical controlled (CNC) machine equipment.

MACHINIST: analyzes specifications; lays out metal stock; sets up and operates machine tools; and operates a variety of machine tools such as radial drill presses, lathes, milling machines, and grinders to machine a variety of metal work pieces.

MAINTENANCE MACHINIST: sets up and operates a variety of machine tools and fits and assembles parts to fabricate or repair machine tools and to maintain industrial machines.

With additional education and/or work experience, graduates may find other opportunities for employment.
- All-Around Machinist
- Journeylevel Machinist
- Pattern Maker
- Set-Up Machinist
- Shop Supervisor
- Tool and Die Maker

CURRICULUM

The Machine Tool Operation Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 34 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-420-310	CNC Theory 1	1
31-420-311	CNC Practice 1	2
31-420-316	Machine Shop Theory 1	1
31-420-317	Machine Shop Theory 2	1
31-420-318	Machine Shop Practice 1	3
31-420-319	Machine Shop Practice 2	3
31-421-352	Blueprint Rdg/Sket-Mach 1	2
31-422-310	Metallurgy	2
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	17

SECOND SEMESTER

Course No.	Description	Credits
31-420-320	CNC Theory 2	1
31-420-321	CNC Practice 2	2
31-420-326	Machine Shop Theory 3	1
31-420-327	Machine Shop Theory 4	1
31-420-328	Machine Shop Practice 3	3
31-420-329	Machine Shop Practice 4	3
31-421-362	Blueprint Rdg/Sket-Mach 2	2
31-442-350	Welding-Machine Trades	2
31-801-385	Communicating-Writing	1
31-804-302	Math 2-Trades	1
	SEMESTER TOTAL	17

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-420-310 CNC THEORY 1 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, and fundamental programming of computer numerically controlled (CNC) milling machines. (Corequisite: 31-420-311, CNC Practice 1)

31-420-311 CNC PRACTICE 1 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, and fundamental programming of computer numerically controlled (CNC) milling machines.

31-420-316 MACHINE SHOP THEORY 1 ...shop safety, measuring tools and layout, power saw operation.

31-420-317 MACHINE SHOP THEORY 2 ...drilling machine, bench work, and engine lathe operation. (Prerequisite: 31-420-316, Machine Shop Theory 1)

31-420-318 MACHINE SHOP PRACTICE 1 ...shop safety; measuring tools and layout; power saw operation; drilling machine, bench work, engine lathe operation; vertical, horizontal, and CNC milling machines; and surface grinder.

31-420-319 MACHINE SHOP PRACTICE 2 ...shop safety; measuring tools and layout; power saw operation; drilling machine, bench work, engine lathe operation; vertical, horizontal, CNC milling machines; and surface grinder. (Prerequisite: 31-420-318, Machine Shop Practice 1)

31-420-320 CNC THEORY 2 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) system, computer programming of computer numerically controlled (CNC) milling machines, and CNC turning centers. (Corequisite: 31-420-321, CNC Practice 2)

31-420-321 CNC PRACTICE 2 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, fundamental programming of computer numerically controlled (CNC) milling machines, and CNC turning centers.

31-420-326 MACHINE SHOP THEORY 3 ...veritcal, horizontal, and CNC milling machines. (Prerequisite: 31-420-317, Machine Shop Theory 2)

31-420-327 MACHINE SHOP THEORY 4 ...CNC lathes, surface and cylindrical grinders. (Prerequisite: 31-420-326, Machine Shop Theory 3)

31-420-328 MACHINE SHOP PRACTICE 3 ...shop safety; measuring tools; power saw operation; drilling machines, bench work and layout; engine lathe operation; vertical and horizontal CNC milling machines; surface grinders; and CNC turning centers. (Prerequisite: 31-420-319, Machine Shop Practice 2)

31-420-329 MACHINE SHOP PRACTICE 4 ...shop safety; measuring tools; power saw operation; drilling machines; bench work and layout; engine lathe operation; vertical, horizontal, CNC milling machines; surface grinders; and CNC turning centers. (Prerequisite: 31-420-328, Machine Shop Practice 3)

31-421-352 BLUEPRINT READING/SKETCHING-MACHINE 1 ...fundamentals of sketching, orthographic projection, auxiliary views, sectional views, dimensioning, precision and non-precision measurement, and general print reading.

31-421-362 BLUEPRINT READING/SKETCHING-MACHINE TRADES 2 ...blueprint reading, tolerancing, surface finishes, fits (inch & metric), basic welding symbols, casting, stamping, gearing and CAM drawings, and basic geometric tolerancing and dimensioning. (Prerequisite: 31-421-352, Blueprint Reading Sketching-Machine Trades I)

31-422-310 METALLURGY... manufacture of iron and steel, mechanical and physical properities of metals, metal identification, macro and microscopic grain structures, welding metallurgy, applied heat treating processes, and weld failures and fractures.

31-442-350 WELDING-MACHINE TRADES ...oxyacetylene welding, brazing, soldering; cutting, hardsurfacing, out-of-position welding, arc welding of machines/accessories, running beads, types of joints, welding thin gauge, arc cutting, and heating.

Descriptions of courses not found on this page can be found in the back of the catalog.

Machine Tooling Technics Program Code 324205

TECHNICAL DIPLOMA - TWO YEARS

Offered at the Marinette campus. Admissions, registration, or counselor, and course information: (715) 735-9361. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

A second year of advanced CNC, tool and die, and electrical discharge machining for graduates of the Machine Tool Operation Program.

Graduates of the Machine Tooling Technics Program will be able to:

- Set-up and operate milling machines.
- Know and apply Statistical Process Control (SPC).
- Set-up and operate computerized electrical discharge machines.
- Design and construct jigs, fixtures, dies and molds.
- Set-up and operate grinding machines.
- Set-up and operate sawing machines.
- Set-up and operate drilling machines.
- Complete basic welding processes.
- Use precision measuring practices.
- Program and operate computerized numerical control milling machines.
- Program and operate computerized numerical control lathes.
- Identify fluid power components.
- Know and apply ISO 9000 quality practices.
- Know and apply mathematics.
- Set-up and operate engine lathes.
- Interpret working drawings.
- Work from blueprints and sketches.
- Know and apply basic metallurgy.
- Know and apply shop safety practices.
- Understand and apply cutting tool speeds and feeds.
- Perform 2-D CAM operations.
- Program 3-D surface machining operations.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within program has an average reading level of 12th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Computer Numerical Controlled (CNC) Operator, Jig and Fixture Apprentice/Trainee, Machine Set-Up Operator, Machinist Apprentice/Trainee, Maintenance Machinist, Mold Maker Apprentice/Trainee, Tool and Cutter Grinder, Tool and Die Apprentice/Trainee, and Electrical Discharge Machining (EDM) Operator.

OPERATOR: sets up and operates computer numerical controlled machine tools working from blueprints and set-up sheets; sets up fixturing and tooling; produces and inspects parts; and edits CNC programs on CNC lathes and machining centers.

JIG AND FIXTURE APPRENTICE/TRAINEE: lays out, fits, and assembles parts to make and repair cutting tools, jigs, fixtures, gauges, or machinist's hand tools by analyzing specifications.

MACHINE SET-UP OPERATOR: sets up and operates a variety of machine tools such as radial drill presses, lathes, milling machines, and grinders; machines metal work pieces such as patterns and machine tool or die parts, usually on a custom basis; analyzes specifications; and determines tooling.

MACHINIST APPRENTICE/TRAINEE: sets up and operates machine tools and fits and assembles parts to make or repair metal parts, mechanisms, tools, or machines.

MAINTENANCE MACHINIST: sets up and operates a variety of machine tools; and fits and assembles parts to fabricate or repair machine tools and to maintain industrial machines.

MOLD MAKER APPRENTICE/TRAINEE: lays out, machines, fits, assembles, and finishes metal products and metal molds for injection or compression molding of plastic or rubber products.

TOOL AND CUTTER GRINDER: sets up and operates cutter grinding machines used for sharpening tools and cutters that are needed in the manufacturing industry; and inspects resharpened tooling.

TOOL AND DIE APPRENTICE/TRAINEE: lays out, machines, fits, assembles and finishes specialized cutting tools used in the mold and die industry as well as dies used in cutting, stamping, and forging processes.

ELECTRICAL DISCHARGE MACHINING (EDM) OPERATOR: sets up and uses Ram or wire EDM machines to manufacture punches, dies, molds as well as production parts.

With additional education and/or work experience, graduates may find other opportunities for employment.
- All-Around Machinist
- Journey Level Machinist
- Pattern Maker
- Mold Maker
- Tool and Die Maker
- CNC Programmer
- Machine Shop Foreperson/Supervisor

CURRICULUM

The Machine Tooling Technics program is a two-year, four-semester program. Upon graduation, a student will have completed 67 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-420-310	CNC Theory 1	1
31-420-311	CNC Practice 1	2
31-420-316	Machine Shop Theory 1	1
31-420-317	Machine Shop Theory 2	1
31-420-318	Machine Shop Practice 1	3
31-420-319	Machine Shop Practice 2	3
31-421-352	Blueprint Rdg/Sket-Mach 1	2
31-422-310	Metallurgy	2
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**17**

SECOND SEMESTER

Course No.	Description	Credits
31-420-320	CNC Theory 2	1
31-420-321	CNC Practice 2	2
31-420-326	Machine Shop Theory 3	1
31-420-327	Machine Shop Theory 4	1
31-420-328	Machine Shop Practice 3	3
31-420-329	Machine Shop Practice 4	3
31-421-362	Blueprint Rdg/Sket-Mach 2	2
31-442-350	Welding-Machine Trades	2
31-801-385	Communicating-Writing	1
31-804-302	Math 2-Trades	1
	SEMESTER TOTAL	**17**

THIRD SEMESTER

Course No.	Description	Credits
31-804-303	Math 3-Trades	1
32-420-332	CNC Fundamentals 3	2
32-420-333	Die Construction-Mold	6
32-420-334	Tool Making	6
32-420-345	Metrology	2
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

Course No.	Description	Credits
31-809-301	Social Science Survey	2
32-420-341	Die Construction-Stamping	6
32-420-342	CNC Fundamentals 4	2
32-420-344	Machining Appl-Adv	6
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-420-310 CNC THEORY 1 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, and fundamental programming of computer numerically controlled (CNC) milling machines. (Corequisite: 31-420-311, CNC Practice 1)

31-420-311 CNC PRACTICE 1 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, and fundamental programming of computer numerically controlled (CNC) milling machines.

31-420-316 MACHINE SHOP THEORY 1 ...shop safety, measuring tools and layout, power saw operation.

31-420-317 MACHINE SHOP THEORY 2 ...drilling machine, bench work, and engine lathe operation. (Prerequisite: 31-420-316, Machine Shop Theory 1)

31-420-318 MACHINE SHOP PRACTICE 1 ...shop safety; measuring tools and layout; power saw operation; drilling machine, bench work, engine lathe operation; vertical, horizontal, and CNC milling machines; and surface grinder.

31-420-319 MACHINE SHOP PRACTICE 2 ...shop safety; measuring tools and layout; power saw operation; drilling machine, bench work, engine lathe operation; vertical, horizontal, CNC milling machines; and surface grinder. (Prerequisite: 31-420-318, Machine Shop Practice 1)

31-420-320 CNC THEORY 2 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) system, computer programming of computer numerically controlled (CNC) milling machines, and CNC turning centers. (Corequisite: 31-420-321, CNC Practice 2)

31-420-321 CNC PRACTICE 2 ...computer controlled milling machines, basic programming operations on computer aided manufacturing (CAM) systems, fundamental programming of computer numerically controlled (CNC) milling machines, and CNC turning centers.

31-420-326 MACHINE SHOP THEORY 3 ...veritcal, horizontal, and CNC milling machines. (Prerequisite: 31-420-317, Machine Shop Theory 2)

31-420-327 MACHINE SHOP THEORY 4 ...CNC lathes, surface and cylindrical grinders. (Prerequisite: 31-420-326, Machine Shop Theory 3)

31-420-328 MACHINE SHOP PRACTICE 3 ...shop safety; measuring tools; power saw operation; drilling machines, bench work and layout; engine lathe operation; vertical and horizontal CNC milling machines; surface grinders; and CNC turning centers. (Prerequisite: 31-420-319, Machine Shop Practice 2)

31-420-329 MACHINE SHOP PRACTICE 4 ...shop safety; measuring tools; power saw operation; drilling machines; bench work and layout; engine lathe operation; vertical, horizontal, CNC milling machines; surface grinders; and CNC turning centers. (Prerequisite: 31-420-328, Machine Shop Practice 3)

31-421-352 BLUEPRINT READING/SKETCHING-MACHINE 1 ...fundamentals of sketching, orthographic projection, auxiliary views, sectional views, dimensioning, precision and non-precision measurement, and general print reading.

31-421-362 BLUEPRINT READING/SKETCHING-MACHINE TRADES 2 ...blueprint reading, tolerancing, surface finishes, fits (inch & metric), basic welding symbols, casting, stamping, gearing and CAM drawings, and basic geometric tolerancing and dimensioning. (Prerequisite: 31-421-352, Blueprint Reading Sketching-Machine Trades I)

31-422-310 METALLURGY ... manufacture of iron and steel, mechanical and physical properties of metals, metal identification, macro and microscopic grain structures, welding metallurgy, applied heat treating processes, and weld failures and fractures.

31-442-350 WELDING-MACHINE TRADES ...oxyacetylene welding, brazing, soldering; cutting, hardsurfacing, out-of-position welding, arc welding of machines/accessories, running beads, types of joints, welding thin gauge, arc cutting, and heating.

32-420-332 CNC FUNDAMENTALS 3 ...CNC production planning, advanced 2-D mill programming, 3-D surface programming for CNC milling, conversational and G-code programming for milling machines, and computer assisted CNC programming for milling operations. (Prerequisites: 31-420-320, CNC Theory 2; 31-420-321, CNC Practice 2)

32-420-333 DIE CONSTRUCTION-MOLD ...mold die prints, fits, plates, heat treating, polishing, ejector systems, fasteners heating/cooling, engraving/stamping, shrinkage factors, gating, design, turning components, drilling/milling components, EDM machining, assembly, plastics, and molding machines. (Prerequisites: 31-420-327, Machine Shop Theory 4; 31-420-329, Machine Shop Practice 4)

32-420-334 TOOL MAKING ...interpreting tool and fixturing prints; designing a tool or fixture; performing various machining, heat treating, and assembly operations necessary to produce a tool or fixture to be used in a typical manufacturing process. (Prerequisites: 31-420-327, Machine Shop Theory 4; 31-420-329, Machine Shop Practice 4)

32-420-341 DIE CONSTRUCTION-STAMPING ...interpreting die prints, design stamping die, perform precision machining including heat treating, jig grinding, and CNC wire EDM producing die components and functional stamping die. (Prerequisites: 31-420-327, Machine Shop Theory 4; 31-420-329, Machine Shop Practice 4)

32-420-342 CNC FUNDAMENTALS 4 ...CNC process modeling, 4th axis indexing, advanced CNC lathe programming, 4th axis CNC wire EDM programming, and CNC fabrication punch/burner programming applications. (Prerequisite: 32-420-332, CNC Fundamentals 3)

32-420-344 MACHINING APPLICATIONS-ADVANCED ...electrical discharge machining (EDM) theory, high speed machining concepts utilizing superabrasive tooling (PCD & CBN), and rapid setup and quick die change applications. (Prerequisite: 32-420-334, Tool Making)

32-420-345 METROLOGY ...ISO 9000 concepts, Statistical Process Control (SPC) theory and applications, coordinate measuring machine setup and applications, surface texture measurement concepts, and applications for geometric dimensioning and tolerancing (GD&T), optical comparator and high amplification techniques.

Descriptions of courses not found on this page can be found in the back of the catalog.

Marketing

Program Code 101043

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus, with an 18-month accelerated format also available for individuals with employment experience.

Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Marketing prepares students to perform basic marketing functions in industrial, wholesale, retail, and service areas. Specific areas of study are sales, promotion principles, market research, and customer service.

Graduates of this program will be able to:
- Recommend a pricing plan.
- Evaluate alternative distribution strategies.
- Develop a product and service mix.
- Generate marketing information for effective decision making.
- Apply continuous improvement strategies to solve marketing problems.
- Assess emerging trends in global trade that impact business and marketing.
- Create a personal professional development plan.
- Manage resources and risks to contribute to profitability of the organization.
- Manage marketing within an enterprise.
- Apply technology to marketing and marketing information systems.
- Apply legal and ethical principles to personal, social, and professional behaviors.
- Develop long-term strategic marketing plans.
- Formulate selling strategies.
- Apply effective leadership skills.
- Design a promotion plan.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Customer Service Representative, Marketing Assistant, Marketing Research Assistant, Sales Promotion Coordinator, or Sales Representative.

CUSTOMER SERVICE REPRESENTATIVE: initiates follow-up work with current customers, processes and tracks customer orders, acts as an internal contact for customer inquiries as well as a liaison to field sales organizations, and uses telecommunications skills extensively.

MARKETING ASSISTANT: assists department head by performing similar duties; directs and coordinates department activities and functions in commercial, industrial, or service establishments; reviews and analyzes reports, records, and directives; confers with supervisory personnel; and performs administrative tasks such as pricing schedules.

MARKET RESEARCH ASSISTANT: researches market conditions to determine potential sales of product or service, examines and assists in analyzing data to forecast future marketing trends, and prepares reports and graphic illustrations of findings.

SALES PROMOTION COORDINATOR: develops a calendar of promotional events, analyzes media utilization, reviews media rates and cost-effectiveness, performs follow-up detail work on promotion implementation, coordinates internal communication, and develops internal promotional support material.

SALES REPRESENTATIVE: sells mainly to other businesses such as factories, wholesalers, retailers, and institutions; sells business, financial, and consumer products and services; sets up displays; visits customers; does paperwork; writes correspondence; and studies literature relating to products.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Business Owner
- Customer Service Manager
- Insurance Agent
- Marketing Manager
- Promotions Manager
- Real Estate Salesperson
- Sales Manager

CURRICULUM

The Marketing Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 67 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-102-158	Business-Intro	3
10-103-103	Micro Basics MS Office 1	3
10-104-101	Selling Principles	3
10-104-110	Marketing Principles	3
10-104-191	Customer Service Mgmt	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
10-104-124	Marketing Applications-PC	1
10-104-126	Promotion Principles	3
10-104-198	Market Research	3
10-801-195	Communication-Written	3
10-801-198	Speech	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER

Course No.	Description	Credits
10-101-141	Accounting-Financial	3
10-104-120	Marketing Info Mgmt	3
10-182-157	Logistics Management	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

Course No.	Description	Credits
10-102-150	Law-Business	3
10-104-134	Marketing Internship OR	3
10-104-140	Marketing Field Study	3
10-104-143	Marketing-Direct	3
10-104-189	Sales Management	3
	Elective	3
	SEMESTER TOTAL	**15**

SUGGESTED ELECTIVES: International Marketing (10-104-148), Consumer Behavior (10-104-176), Selling Techniques-Advanced (10-104-181).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-102-158 BUSINESS-INTRODUCTION ...organization/management process of human resources, production, operations, marketing, distribution, and finances; risk management; ethics/legalistic management; international business; accounting, computers, and data processing.

10-104-101 SELLING PRINCIPLES ...selling as a career; success factors in selling; personality development; product knowledge; and the sales process involving preparation, approach, presentation-demonstration, handling objections, and closing the sale successfully.

10-104-110 MARKETING PRINCIPLES ...marketing management, market segmentation, market research, consumer behavior, product decisions and management, distribution, pricing, promotional decisions, and international marketing strategy planning.

10-104-120 MARKETING INFORMATION MANAGEMENT ...opportunity analysis, marketing research processes and data sources, forecasting sales of new and established products, master plan for a marketing strategy, and implementation and control of marketing programs.

10-104-126 PROMOTION PRINCIPLES ...theory and techniques for integrated promotion plan; sales promotion planning; special event coordination; trade shows; advertising: media selection, budgeting, ad creation; direct marketing; public relations; international advertising and promotion.

10-104-134 MARKETING INTERNSHIP ...training in an appropriate setting through actual work experience and observation.

10-104-140 MARKETING FIELD STUDY ...alternative to the internship: in-depth study of an industry, business, career, or project.

10-104-143 MARKETING-DIRECT ...interactive technology, direct marketing vs. general advertising, market segmentation through databases, renting prospect lists, print and broadcast media copy, direct mail, catalogs, telemarketing skills, and script writing.

10-104-189 SALES MANAGEMENT ...sales-force organization, staffing, and operations; recruiting and processing applicants; training programs; motivating; compensation; forecasting and budgeting; territories and routing; quotas; evaluating performance; and decision-making through case study analysis.

10-104-191 CUSTOMER SERVICE MANAGEMENT ...develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, set complaint policies, and develop communication techniques to handle complaining customers.

10-104-198 MARKET RESEARCH ...identifying problems and formulating problem hypothesis, situation analysis, informal investigation and secondary research, project objectives, primary research, sampling, questionnaires, interviews, processing the written report, and conclusions and data analysis.

10-182-157 LOGISTICS MANAGEMENT ...basic concepts, management levels, elements of inventory control, transportation, warehousing, packaging, material handling and purchasing, and the role order processing plays in the distribution cycle.

Descriptions of courses not found on this page can be found in the back of the catalog.

Marketing and Graphic Communications
Program Code 101117

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION
Marketing and Graphic Communications trains students in electronic publishing, image editing, printing techniques, pre-press process, graphics photography, illustration, and graphic design concepts.

Graduates of this program will be able to:
- Conduct marketing plan.
- Implement promotional strategies.
- Create designs for print and multimedia.
- Perform electronic pre-press operations.
- Produce four color process and spot color separations.
- Perform conventional pre-press operations.
- Operate printing equipment.
- Assemble professional quality portfolio.

REQUIREMENTS FOR PROGRAM ENTRY
NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL
Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL
Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL
A graduate of the program will have the potential for employment as Desktop Publisher, Graphic Designer, Advertising Assistant, Commercial Art Worker, Layout Designer, Printing Support Worker, Public Relations Assistant, or Pre-Press Technician.

DESKTOP PUBLISHER: produces professional publications using electronic publishing software, scans graphic images, places text and graphics files onto the page, and operates image setters.

GRAPHIC DESIGNER: develops advertising concepts and prepares art for the final printed piece.

ADVERTISING ASSISTANT: works with the ad director or store manager to plan and prepare advertising for print, radio, and TV use.

COMMERCIAL ART WORKER: prepares artwork and copy to be used in label production, package design, printed materials; prepares process separations; preflights electronic files; manages color control; and manages fonts.

LAYOUT DESIGNER: designs basic plans for print advertising, passes on work to a commercial artist or copywriter, and is responsible for final electronic files.

PRINTING SUPPORT WORKER: handles electronic and traditional pre-press operations including process cameras, PMT processing, stripping negatives, plate making, evaluating halftones, color separations, contact printing, special effects halftone production, electronic scanning, image editing, and color proofing.

PUBLIC RELATIONS ASSISTANT: assists in public relations activities helping to produce brochures, press releases, displays, and newsletters; organizes and prepares materials for use in presentations in the form of handouts, slide art/copy, transparencies, and charts.

PRE-PRESS TECHNICIAN: prepares computer documents for printing; trapping, font usage, picture usage, color management, clipping paths, and placing high and low resolution graphics into document.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Account Executive
- Art Director
- Design Supervisor
- Media Buyer

CURRICULUM
The Marketing and Graphic Communications Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 69 credits.

FIRST SEMESTER
Course No.	Description	Credits
10-111-103	Macintosh-Intro	1
10-111-111	Marketing 1-Visual Design	3
10-111-120	Marketing Presentation	3
10-204-110	Printing-Introduction	3
10-801-195	Communication-Written	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER
10-104-110	Marketing Principles	3
10-111-121	Marketing 2-Visual Design	3
10-111-125	Graphic Reproduction Tech	3
10-111-161	Macintosh-Publish/Illus	3
10-111-162	Typography Design/Paper	2
10-801-162	Copywriting-Intro	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER
10-104-102	Advertising Fund	3
10-104-191	Customer Service Mgmt	3
10-111-101	Macintosh-Image Editing	3
10-801-196	Oral/Interpers Communication	3
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER
10-111-141	Marketing Comm Internship	3
10-111-142	Graphic Reproduction-Adv	2
10-111-144	Public Relations	3
10-111-170	Graphic Design Portfolio	1
10-809-197	Society-Amer Contemp	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Macintosh Systems Management (10-107-159), Web Graphic Design (10-111-150), Macintosh Image Editing-Advanced (10-111-110).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-104-102 ADVERTISING FUNDAMENTALS
...advertising history; types of advertising; target marketing; multimedia approach; copy, layout, and design; the advertising agency; developing an advertising campaign; and the legal, economic, and social aspects of advertising.

10-111-101 MACINTOSH-IMAGE EDITING
...explore the software application of Adobe Photoshop; scanning, editing, color correcting and creating composite montage photographs. Prepare images for publication in print or the internet. An introduction to manipulating bitmap images.

10-111-103 MACINTOSH-INTRODUCTION
...computer operating system, basic computer hardware, and basic computer software.

10-111-111 MARKETING 1-VISUALDESIGN
...design and drawing for graphic reproduction, design trends, and applications; brochure, advertising, and corporate I.D. package created using basic design process of thumbnails, rough, and comprehensive layout.

10-111-120 MARKETING PRESENTATION
...develop page layout concepts utilizing document files, tools, guides, objects and shapes, text, colors, style sheets, images, master pages; manage output for printing; and apply copy elements.

10-111-121 MARKETING 2-VISUALDESIGN
...apply basic design techniques to an advertising campaign, illustration techniques, lettering and typography, reproducing logos for print production, color for advertising, and preparation of a professional portfolio.

10-111-125 GRAPHIC REPRODUCTION TECHNIQUES ...basic process of reproducing images using offset lithography including electronic imaging, film stripping, plates, press operation, estimating, and production planning.

10-111-141 MARKETING COMMUNICATIONS INTERNSHIP ...classroom experience with on-the-job training concluding with an evaluation by employer and instructor.

10-111-142 GRAPHIC REPRODUCTION-ADVANCED ...various techniques used to print four-color process images including traditional and electronic separations; negative production; stripping, printing, and proofing techniques; color correction; preparing negatives for flexo, gravure, and screen printing.

10-111-144 PUBLIC RELATIONS ...identifying the needs of an organization's publics; public relations as an attitude; social and organizational responsibility; news releases, newsletters, and use of business communications.

10-111-161 MACINTOSH-PUBLISHING/ ILLUSTRATING ...create and paint basic shapes, draw, transform objects, work with type, blend shapes and colors, work with layers, special effects, and color separations. An introduction to manipulating vector based images.

10-111-162 TYPOGRAPHYDESIGN/PAPER
...typography history; type styles and nomenclature; type in design world; type usage in printing; paper nomenclature; paper types; papers used for art, printing, and industry; and future of paper.

10-111-170 GRAPHIC DESIGN PORTFOLIO
...define portfolios, evaluate current projects, produce artifacts for portfolio, and raise/strike portfolio exhibit.

10-204-110 PRINTING-INTRODUCTION ...printing processes, career traits, electronic publishing, plate making, press operation, printing plates, flexographic press controls, offset press controls, paper cutters, support equipment, job seeking skills, professional portfolios, and job logs.

Descriptions of courses not found on this page can be found in the back of the catalog.

Material Handling Equipment Mechanic

Program Code 314721

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Material Handling Equipment Mechanic prepares students to service and maintain gasoline, electric, and diesel powered material handling equipment.

Graduates of the Material Handling Equipment Mechanic Program will be able to:
- Repair mechanical drive systems.
- Repair hydraulic systems.
- Repair electrical systems.
- Repair internal combustion engines.
- Reassemble material handling equipment.
- Assess condition, diagnose problems of material handling equipment.
- Communicate technical information.
- Perform scheduled maintenance.
- Use hand and power tools.
- Operate material handling equipment.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within this program has an average level of 11th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Material Handling Equipment Mechanic, Lift Truck Mechanic, Field Service Mechanic, Scheduled Maintenance Mechanic, Farm Equipment Mechanic, Construction Equipment Mechanic, and High Reach Equipment Mechanic.

MATERIAL HANDLING EQUIPMENT MECHANIC: inspects, maintains, repairs, and adjusts mobile material handling equipment such as front-end loaders, back hoes, trenchers, and skid loaders.

LIFT TRUCK MECHANIC: inspects, maintains, repairs, and adjusts industrial lift trucks within an equipment dealership or for an industrial manufacturing plant.

FIELD SERVICE MECHANIC: performs on-site repairs on mobile material handling equipment while traveling as a mechanic for a material handling equipment dealer.

SCHEDULED MAINTENANCE MECHANIC: performs routine maintenance such as chassis lubrication, oil changes, and engine tune-ups on material handling mobile equipment.

FARM EQUIPMENT MECHANIC: inspects, maintains, repairs, and adjusts farm mobile material handling equipment such as skid loaders, tractors, and bale handlers for equipment dealers and repair services.

CONSTRUCTION EQUIPMENT MECHANIC: inspects, maintains, and repairs construction equipment such as front-end loaders, skid-steer loaders, back hoes, trenchers, and dozers for construction companies and equipment dealerships.

HIGH REACH EQUIPMENT MECHANIC: inspects, maintains, and repairs equipment such as scissor lifts and boom lifts in a dealership or industrial plant.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Field Service Representative
- Journey Level Mechanic
- Lead Mechanic
- Master Mechanic
- Sales and Service Representative
- Shop Foreperson
- Shop Supervisor

CURRICULUM

The Material Handling Equipment Mechanic Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-442-355	Welding-Maintenance	3
31-472-308	Mobile Equip-Eng Systems	5
31-472-309	Mobile Equip-Eng Repair	5
31-472-312	Mobile Equip-Electric Sys	2
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**17**

SECOND SEMESTER

Course No.	Description	Credits
31-419-311	Hydraulics-Applied	2
31-472-318	Mobile Equip-Drive Line	5
31-472-319	Mobile Equip-Vehicle Chas	5
31-472-324	Electrical Vehicle Theory	3
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-442-355 WELDING-MAINTENANCE
...ferrous and non-ferrous metals, oxy-acetylene, gas tungsten arc, gas metal arc, shielded metal arc, drilling, and threading.

31-472-308 MOBILE EQUIPMENT-ENGINE SYSTEMS ...theory of operation and repair of the internal combustion engine's ignition and fuel systems, covering the conventional point ignition system and the industrial gasoline, LPgas, and diesel fuel systems.

31-472-309 MOBILE EQUIPMENT-ENGINE REPAIR ...internal combustion engines, lubrication systems, cooling systems, valve trains, engine block assemblies.

31-472-312 MOBILE EQUIPMENT-ELECTRICAL SYSTEMS ...AC/DC theory, electrical schematics, battery testing, troubleshooting, system charging/starting, instrument circuits, and electronic ignition circuits.

31-472-318 MOBILE EQUIPMENT-DRIVE LINE
...theory of operation and repair of industrial vehicle engine couplers, transmissions, differentials, and final drives; hands-on training in standard, automatic, and hydrostatic transmissions.

31-472-319 MOBILE EQUIPMENT-VEHICLE CHASSIS ...theory of operation and repair of industrial vehicle chassis systems such as the steering, brake, hydraulic, mast assemblies, and other specialty systems common to the material handling industry.

31-472-324 ELECTRIC VEHICLE THEORY
...electrical testing equipment, basic electric laws, electrical schematic reading, conductors, semi-conductor and insulator theory, D.C. motor theory, D.C. controls, SCR and transistor drive systems.
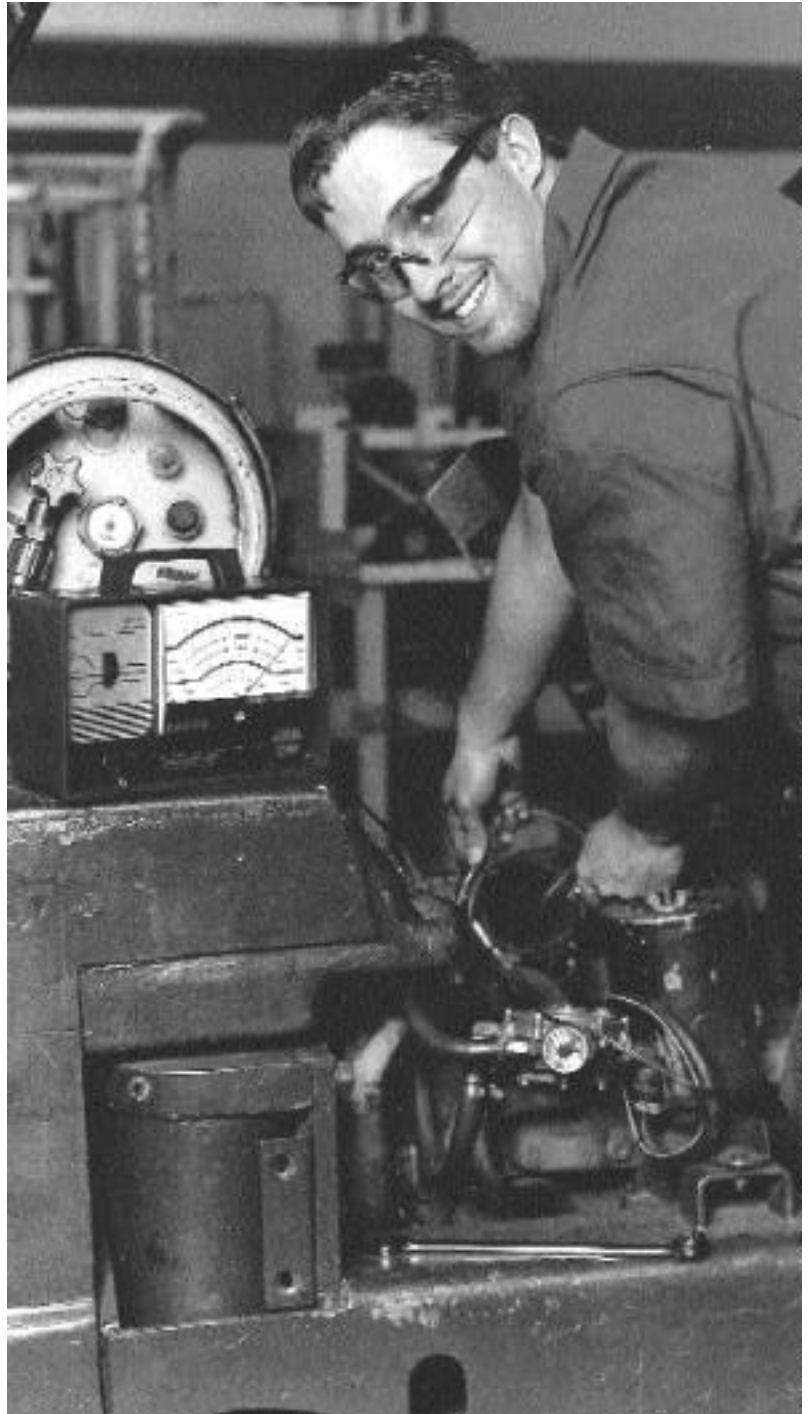
Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN **113** TECHNICAL COLLEGE

Mechanical Design Technician
Program Code 106061

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free, (800) 422-NWTC.

PROGRAM DESCRIPTION

Mechanical Design Technician prepares learners for employment as machine designers. Mechanical Design Technicians assist Product Engineers by detailing sections of the design. Detailing includes selecting standard parts such as bearings, couplings, and fasteners; sizing machine members; and preparing necessary documentation for detail and assembly drawings. Most of the work is done on a computer.

Graduates of the Mechanical Design Technician Program will be able to:
• Draw principal, auxiliary, and sectional views.
• Use mechanical, architectural, metric, and and civil scales to plot scalable prints of drawings.
• Research information on the Internet.
• Maintain files on a personal computer.
• Operate word processing and spreadsheet programs.
• Analyze displacement, velocity, and acceleration of machine members.
• Analyze stresses caused by forces acting on bodies at rest.
• Analyze forces acting on bodies at rest.
• Sketch orthographic and isometric views.
• Use catalogs or Internet sites to select standard components in machine design.
• Dimension mechanical drawings according to conventional ANSI Y14 standards and GDT standards.
• Draw weldments and sheetmetal layouts.
• Draw CAM layouts.
• Calculate gear train ratios.
• Select gears from catalogs.
• Design simple mechanical devices.
• Draw detail and assembly drawings.
• Prepare electrical/electronic documentation for machine control.
• Construct ladder diagrams.
• Display attitudes consistent with the profession.
• Work in an organized manner, documenting work performed.
• Use Machinery's Handbook as a reference source.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• A high school background in mathematics, science, and industrial education
• High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
• High school Algebra or equivalent

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Detailer, Mechanical Design Technician, and Mechanical Drafter.

DETAILER: produces detailed drawings of parts of machines from supplied information on CAD, makes drawing changes to comply with Engineering Change Notices (ECN's)/ Engineering Change Requests (ECR's). Works under close supervision.

MECHANICAL DESIGN TECHNICIAN: applies knowledge of mechanical engineering technology to design, develop, and test new or revised machinery; assists in component selection and sizing of machine members; has duties split between design and drafting on a CAD system; and may specialize in a specific type of machine or product.

MECHANICAL DRAFTER: has the principal duty of preparing working drawings of machinery and mechanical devices using CAD systems and drafts detail and assembly drawings indicating dimensions and tolerances, materials, surface finishes, joining requirements, and other engineering data.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Mechanical Designer (Product Designer)
• Lead Designer
• Project Engineer
• Technical Sales/Service Representative

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

CURRICULUM

The Mechanical Design Technician Associate Degree is a two-year plus one summer, five-semester program. Upon graduation, a student will have completed 72 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-606-111	Mechanical Design-Exploring	1
10-606-112	Engineering Applications	1
10-606-113	CAD	2
10-606-119	Sketching-Technical	2
10-801-196	Oral/Interpers Communication	3
10-804-150	Math 1-Tech	5
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-420-111	Manufacturing Tech 1	4
10-606-122	CAD-Mechanical	3
10-606-126	Geometric Dimension/Toleran	2
10-804-160	Math 2-Tech	4
10-806-150	Physics 1-Technical	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER

10-420-121	Manufacturing Tech 2	4
10-606-135	Machine Members-Strength	5
	OR	
10-606-138	Statics	2
	AND	
10-606-148	Materials-Strength	3
10-606-137	Geometry-Descriptive	3
10-606-139	Cad-Electrical Control	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-419-170	Fluid Power	3
10-606-141	Design Problems	3
10-606-143	Mechanisms	3
10-801-197	Reporting-Technical	3
	Elective	3
	SEMESTER TOTAL	**15**

SIXTH SEMESTER

10-801-195	Communication-Written	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**6**

SUGGESTED ELECTIVES: Computer Integrated Manufacturing (10-606-157), 3D Parametric Modeling (10-606-160), Physical Metallurgy (10-806-171).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-420-111 MANUFACTURING TECHNIQUES 1 ...manufacturing techniques, quality assurance, drilling, turning/boring, cutting tools, broaching/sawing, milling/grinding, engineering materials, heat treatment, and casting processes.

10-420-121 MANUFACTURING TECHNIQUES 2 ...welding methods, mechanical fastening, adhesive joining, non-metal engineering materials, material forming concepts, non-traditional machining methods, automated machining methods, automated assembly methods, flexible manufacturing concepts,tool and fixturing concepts, and CIM. (Prerequisite: 10-420-111, Manufacturing Techniques 1)

10-606-111 MECHANICAL DESIGN-EXPLORING ...philosophy/organization/procedure of the Mechanical Design Technician Program, brief overview of the engineering profession by involvement in a design project to illustrate basic concepts/methods of machine design.

10-606-112 ENGINEERING APPLICATIONS ...basics of a computer system, computer terminology, Windows NT, Microsoft Word, Microsoft Excel, and AutoCAD.

10-606-113 CAD (COMPUTER AIDED DRAFTING) ...computer aided drafting using AutoCAD software focusing on template settings; creating and manipulating layers; basic drawing, editing, and inquiry commands; blocks and attributes; and plotting. (Prerequisites: 10-606-112, Engineering Applications; 10-606-119, Sketching-Technical)

10-606-119 SKETCHING-TECHNICAL ...graphically describe objects without CAD system or mechanical drawing aids; fundamental components of design process: lettering, geometric construction, orthographic projection, isometric sketching, section views, auxiliary views, and dimensioning.

10-606-122 CAD-MECHANICAL ...auxiliary views, section views, intersections and developments, sheetmetal developments, welding drawings, design and working drawings, conventional dimensioning and tolerancing. (Prerequisite: 10-606-113, Computer Aided Drafting)

10-606-126 GEOMETRIC DIMENSIONING/ TOLERANCING ...basic review, geometric dimensioning, datums, material condition symbols, tolerances of form and profile, tolerances of orientation and run out, location tolerances and virtual condition. (Prerequisite: 10-606-113, Computer Aided Drafting)

10-606-135 MACHINE MEMBERS-STRENGTH ...force analysis, moments, truss and frame analysis, simple stress, properties of materials, joint design, centroids and moments of inertia, beam design, shafting design, combined stresses, columns. (Prerequisites: 10-804-160, Math 2-Technical; 10-806-150, Physics 1-Technical)

10-606-137 GEOMETRY-DESCRIPTIVE ...orthographic projection, primary auxiliary views, points, lines, planes, successive auxiliary views, piercing points, intersection of planes and dihedral angles, parallelism and perpendicularity, angles between lines and planes, revolutions, and vectors. (Prerequisite: 10-606-122, Computer Aided Drafting-Mechanical)

10-606-138 STATICS ...force analysis, moments, resultant and equilibriant forces, nonconcurrent-coplanar forces, concurrent-noncoplanar forces, and introduction to stress. (Prerequisites: 10-804-160, Math 2-Technical; 10-806-150, Physics 1-Tech)

10-606-139 CAD-ELECTRICALCONTROL ...electrical and electronic devices, drafting practices and formats, AutoCAD shape files, menu customization, Autolisp, macros. (Prerequisite: 10-606-122, Computer Aided Drafting-Mechanical)

10-606-141 DESIGN PROBLEMS ...data gathering, mathematics, and document standard practices. (Prerequisites: 10-606-126, Geometric Dimensioning/Tolerancing; 10-606-135, Machine Members-Strength; 10-606-122, CAD Mechanical)

10-606-143 MECHANISMS ...study of motion, vector equations and sense notation, basic motion concepts, kinematic drawing and displacement, velocities in mechanisms, accelerations in mechanisms, CAM motions, and gear trains. Prerequisites: 10-606-122, CAD-Mechanical; 10-806-150, Physics 1-Technical)

10-606-148 MATERIALS-STRENGTH ...effect of static loads on materials; stresses; properties; bolted, riveted, and welded joints; center of gravity; centroids; inertia; simple beams; torsion; shafts, couplings, and keys; combined stresses and columns. (Prerequisite: 10-606-138, Statics)

Descriptions of courses not found on this page can be found in the back of the catalog.

Medical Assistant Program Code 315091

TECHNICAL DIPLOMA - ONE YEAR
Offered at the Green Bay campus. Admissions, registration, or counselor:(920) 498-5733. Course information:(920) 498-5543. Toll free:(800) 422-NWTC

PROGRAM DESCRIPTION
Medical assistant students learn to perform business and clinical duties in the medical office. Clinical duties include business and computer operations, patient preparation, and routine medical and laboratory procedures. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Medical Assistant program will be able to:
• Obtain employment as a Medical Assistant.
• Display professionalism.
• Communicate effectively as a clinician.
• Perform administrative duties.
• Perform clinical duties.
• Apply legal concepts to practice.
• Perform operational functions.
• Provide instruction.
• Write National Medical Assistant Certification Examination.

Beginning with the January 2001 administration of the Certification Examination, felons will not be eligible for the Certification Examination unless the Certifying Board grants a waiver based on one or more of the mitigating circumstances listed in the Disciplinary Standards. After January 1, 2003, CMAs who are currently employed or seeking employment may not use the CMAcredential unless their CMAis current. However, Certified Medical Assistants who are temporarily or permanently retired may continue to use the CMAcredential for ceremonial purposes only. (reference, AAMA) Students will have on-the-job experience in area clinics during a five-week medical affiliation during the second semester of the program.

The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) and the American Association of Medical Assistants' Endowment.
> American Association of Medical Assistants
> 20 N. Wacker Drive, Suite 1575
> Chicago, IL60606
> (800)228-2262

Students will be required to purchase uniforms, pay for liability insurance for the medical affiliation course, and provide their own transportation to the medical offices.

REQUIREMENTS FOR PROGRAM ENTRY
NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• High school diploma or equivalent
• Satisfactory placement in the NWTC mathematics and reading tests or satisfactory placement on the ACT assessment test
• Typing proficiency of 35-words per minute
• An interview or orientation
• A satisfactory medical examination within three months before entering the program

EMPLOYMENT POTENTIAL
A graduate of the program will have the potential to be employed as a Medical Assistant, Claims Analyst, EKG Technician, Laboratory Assistant, Medical Records Clerk, Medical Office Assistant, Pharmacy Aide, and Transcriptionist.

MEDICALASSISTANT: prepares a patient for examination or treatment, takes vital signs, performs simple lab tests, performs electrocardiograms, performs administrative functions, and assists the physician as needed.

CLAIMS ANALYST: processes insurance claims on a computer.

EKG TECHNICIAN: operates and maintains electrocardiographic machines, records the heart's electrical activity, and provides data for diagnosis and treatment of heart ailments by physicians.

LABORATORY ASSISTANT: performs simple laboratory procedures and venipunctures to collect blood specimens.

MEDICALRECORDS CLERK: handles all patient medical records in areas such as progress notes and pulls records of patients on a daily basis.

MEDICALOFFICE ASSISTANT: performs a variety of duties related to bookkeeping, typing, filing, record keeping, customer relations, telephoning, general correspondence, appointments, and patient accounts.

PHARMACYAIDE: prepares unit dose medication, types and labels outpatient prescriptions, and delivers medications to wards.

TRANSCRIPTIONIST: uses transcribing machines and word processing equipment, proofreads, and verifies documents.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Medical Laboratory Technician
• Medical Office Manager
• Medical Transcriptionist

READING LEVEL
Textbook readability within this program has an average level of 13th grade.

MATH LEVEL
Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM
The Medical Assistant Technical Diploma is a one-year, two-semester, plus two-week program. Upon graduation, a student will have completed 31 credits.

FIRST SEMESTER
Course No.	Description	Credits
* 31-105-351	Medical Office Proc 1	2
31-106-351	Keyboarding-Medical	2
31-509-306	Medical Asst-Pers/Voc Rel	2
* 31-509-307	Medical Office Th/Proc 1	2
31-509-308	Health/Disease 1-Human	3
* 31-509-360	Medical Terminology	2
31-801-385	Communicating-Writing	1
31-801-387	Grammar-Business Appl	1
	SEMESTER TOTAL	**15**

SECOND SEMESTER
Course No.	Description	Credits
* 31-105-355	Medical Office Proc 2	2
31-509-325	Medical Insurance	2
* 31-509-326	Medical Affiliation	3
* 31-509-327	Medical Office Th/Proc 2	4
* 31-509-328	Medical Lab Procedures 1	5
	SEMESTER TOTAL	**16**

** May complete #10-510-165, Medical Terminology to meet course requirement for #31-509-360, Medical Terminology.

NOTE: No final grade lower than C is acceptable in any course marked with an asterisk. A student may repeat that particular course to achieve a C or better final grade in order to continue in, or graduate from this program.

This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), on recommendation of the Committee on Accreditation for Medical Assistant Education. Upon graduation, a student will be eligible to take the national examination for Certified Medical Assistants.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-105-351 MEDICAL OFFICE BUSINESS PROCEDURES 1 ...office procedures applicable to medical offices including receptionist responsibilities, telephoning, appointment scheduling, records management, handling mail, and office maintenance. (Prerequisite: Accepted into Medical Assistant)

31-105-355 MEDICAL OFFICE BUSINESS PROCEDURES 2 ...maintaining financial records/computer applications in physician's office: patient billing/recordkeeping, word processing/transcription, and payroll for medical office. (Prerequisite: 31-105-351, Medical Office Business Process 1)

31-106-351 KEYBOARDING-MEDICAL ASSISTANTS ...keying specialized medical documents; rules for technical usage of capitalization, punctuation, abbreviations, symbols, and numbers; and improvement of speed, accuracy, and word processing skills.

31-509-306 MEDICAL ASSISTANT-PERSONAL/VOCATIONAL RELATIONS ...basic principles of human behavior, the patient/health care provider interaction, medical law and ethics, and the implications of law and ethics for the medical office employee. (Prerequisite: Accepted into Medical Assistant)

31-509-307 MEDICAL OFFICE THEORY/PROCEDURES 1 ...medical asepsis and infection control, vital signs, the patient examination, first aid, and basic life support. (Prerequisite: Accepted into Medical Assistant)

31-509-308 HEALTH/DISEASE 1-HUMAN ...structure and organization of the body, functions and interaction of all body systems, and abnormalities and diseases of the body.

31-509-325 MEDICAL INSURANCE ...coding and submitting claims for common medical insurance programs including Medicare, Medicaid, Blue Cross & Blue Shield, CHAMPUS, workers compensation, and private commercial plans. (Prerequisite: 31-509-307, Medical Office Theory/Proc 1)

31-509-326 MEDICAL AFFILIATION ...how to perform various clinical and administrative procedures under supervision in an affiliating medical facility; includes practical application of all course work. (Corequisite: 31-509-327, Medical Office Theory/Pract 2)

31-509-327 MEDICAL OFFICE THEORY/PROCEDURES 2 ...clinical skills performed in the doctor's office, the eye and ear, healing through physical therapy, sterilization and disinfection, minor office surgery, administration of medication, venipuncture, x-ray examinations, and specialty examinations. (Prerequisite: 31-509-307, Medical Office Theory/Proc 1)

31-509-328 MEDICAL LABORATORY PROCEDURES 1 ...safety; laboratory responsibilities; specimen collection and handling; microscope use; perform and interpret laboratory procedures in areas of: urinalysis, microbiology, hematology, coagulation, blood bank, serology, chemistry; and electrocardiography (ECG) administration. (Prerequisite: 31-509-307, Medical Office Theory/Proc 1)

31-509-360 MEDICAL TERMINOLOGY ...spelling, pronunciation, definition, and abbreviation application; word roots, prefixes, and suffixes; and anatomical structure.

Descriptions of courses not found on this page can be found in the back of the catalog.

Medical Laboratory Technician — Program Code 105131

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Medical Laboratory Technician students learn to perform a variety of laboratory tests to distinguish normal from abnormal results and report results to the physician to facilitate patient care. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Medical Laboratory Technician Program will be able to:
• Be successfully employed in the field.
• Collect blood samples.
• Record laboratory results.
• Maintain laboratory instrumentation.
• Communicate effectively.
• Work cooperatively.
• Behave in an ethical manner.
• Display the knowledge and skills necessary to become proficient in the field.
• Monitor quality control procedures.
• Perform routine analytical laboratory tests.
• Evaluate accuracy of test results obtained.
• Practice standard safety precautions.
• Correlate test results to their clinical significance.
• Demonstrate knowledge of human anatomy and physiology.
• Demonstrate proficiency in chemistry.
• Display knowledge of general microbiology.
• Perform calculations.
• Process blood and other clinical specimens for analysis.

Students are required to purchase uniforms, provide their own transportation to clinical facilities, and pay for liability insurance for the Clinical Practicum course.

READING LEVEL

Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills and Accuplacer tests for Algebra. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

Medical Laboratory Technicians perform a wide variety of clinical laboratory tests using instrumentation methods as well as manual techniques. A graduate of the program will have the potential for employment as a Medical Laboratory Technician. Employment opportunities are available in hospitals, clinics, doctor's offices, state and federal labs, and private/commercial clinical laboratories.

MEDICAL LABORATORY TECHNICIAN:

applies knowledge of test procedures and quality control methods in the areas of hematology, chemistry, serology, urinalysis, blood bank, microbiology, and phlebotomy; performs tests accurately and efficiently using both automated and manual methodology; evaluates the clinical significance of test results.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Minimum standard composite score of 20 on the ACT assessment
• High school diploma or equivalent
• Two years of algebra or one year of algebra and one year of advanced math (or attain a minimum of 80% on the NWTC Algebra examination)
• One year of biology or equivalent
• One year of chemistry taken within the past five years or equivalent. (All courses should have been completed with a C or better grade.)
• Have completed a medical examination satisfactorily within three months before entering program
• Strongly recommend attendance in the Program Orientation session.
• All students are required to complete an American Heart Association Health Care Provider CPR course prior to Clinical Practicum. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

NOTE: Students who do not meet the above requirements should consult an NWTC counselor about ways to make up any deficiencies through testing or course work.

CURRICULUM

The Medical Laboratory Technician Associate Degree is a two-year, one summer, five-semester program. Upon graduation, a student will have completed 70 credits.

FIRST SEMESTER

Course No.	Description	Credits
* 10-513-150	Phlebotomy	2
10-801-196	Oral/Interpers Communication	3
* 10-806-163	Chemistry-Bioorganic	3
* 10-806-180	Anatomy/Physiology	4
* 10-806-194	Microbiology	3
	SEMESTER TOTAL	**15**

SECOND SEMESTER

* 10-513-104	Medical Lab-Hematology	5
* 10-513-106	Basic Clinical Lab Tech	3
* 10-513-111	Med Lab-Microbiology-Clin	5
10-801-195	Communication-Written	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER

* 10-513-101	Medical Lab-Microscopy Clin	3
* 10-513-108	Medical Lab-Immunology-Clin	5
* 10-513-110	Clinical Chemistry	4
10-809-195	Economics	3
10-809-198	Psychology-Intro	3
	Elective	3
	SEMESTER TOTAL	**21**

FOURTH SEMESTER

* 10-513-140	MLT Clinical Simulation	1
* 10-513-141	Medical Lab-Practicum	11
10-809-196	Sociology-Intro	3
	Elective	3
	SEMESTER TOTAL	**18**

* NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program. If the course is segmented, the successful retake must occur before continuing the sequence.

The Medical Laboratory Technician program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
8410 W. Bryn Mawr Ave., Suite 670
Chicago, IL 60631
(312) 714-8880

A graduate is eligible to take the National Medical Laboratory Technician Board of Registry examination.

SUGGESTED ELECTIVES: Computer Applications (10-804-182), Keyboarding (10-106-145).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-513-101 MEDICALLAB-MICROSCOPY CLINICAL ...physical, chemical, and microscopic examination of urine and body fluids as performed in the clinical laboratory. (Prerequisite: 10-513-104, Medical Lab Hematology)

10-513-104 MEDICALLABORATORY-HEMATOLOGY ...blood, blood diseases, hematopoiesis, principles and procedures for routine and special hematology and coagulation tests. (Prerequisite: 10-513-150, Phlebotomy)

10-513-106 BASIC CLINICALLABORATORY TECHNIQUES ... develops skills, process, understanding of laboratory supplies/equipment, safety, pipetting, laboratory math, solutions, dilutions, Quality Control/statistics, electronic, analytical techniques/instrumentation, automation, POCT, procedure writing, therapeutic drug monitoring, toxicology, immunoassays. (Prerequisite: 10-806-163, Chemistry-BioOrganic)

10-513-108 MEDICALLAB-IMMUNOLOGY-CLINICAL ...basic theoretical concepts and practical application of immunohematologic and serologic laboratory tests; test results interpreted for clinical significance. (Prerequisite: 10-513-104, Medical Lab-Hematology)

10-513-110 CLINICAL CHEMISTRY ...provides knowledge of skills, process; understanding of carbohydrate metabolism; non-protein nitrogen compounds; electrolytes; trace elements; blood gases; proteins; liver enzymes/markers, cardiac, pancreatic function; lipids; thyroid function; hormones; tumor markers. (Prerequisite: 10-513-106, Basic Clinical Lab Tech)

10-513-111 MEDICALLAB-MICROBIOLOGY-CLINICAL ...bacterial culture and microscopic techniques, antimicrobial susceptibilities, anaerobic culture techniques, mycology, parasitology, and mycobacterial procedures. (Prerequisite: 10-806-194, Microbiology)

10-513-140 MLT CLINICALSIMULATION ...review of clinical laboratory testing and instrumentation, overview of laboratory information systems, test prioritization, patient specimen collection. This course prepares the MLT program student to begin the Clinical Practicum. (Prerequisites: 10-513-101, Medical Lab-Microscopy/Clinical; 10-513-108, Medical Lab Immunology-Clinical; 10-513-110, Clinical Chemistry)

10-513-141 MEDICAL LAB-PRACTICUM ...clinical applications of knowledge and procedures in hematology/coagulation, urinalysis, microbiology, blood bank, chemistry/serology, preparation for MLT certification examinations. (Prerequisites: 10-513-109, Medical Lab Chemistry-Clinical; 10-513-111. Medical Lab Microbiology-Clinical; 10-513-108, Medical lab Immunology Clinical; 10-513-107, Medical Lab Instrumentation)

Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN **119** TECHNICAL COLLEGE

Microcomputer Application Software Technician (CIS)

TECHNICAL DIPLOMA - ONE YEAR

Program Code 311075

Offered at the Marinette and Sturgeon Bay campuses. Information in Marinette: (715) 735-9361. Information in Sturgeon Bay: (920) 743-2207.
Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Microcomputer Applications Software Technician emphasizes problem solving using microcomputer hardware and software facilities including DOS and Windows operating systems, Microsoft Word, Microsoft Excel, and Visual BASIC.

Graduates of this program will be able to:

- Solve business problems through the application of microcomputer technology.
- Apply emerging technology.
- Maintain microcomputer hardware.
- Configure microcomputer systems.
- Manipulate file systems using DOS and Windows commands.
- Automate word processing operations using macros and programming techniques.
- Design user-friendly spreadsheet applications.
- Provide end-user support for word processing and spreadsheet software.
- Generate algorithmic solutions to business problems.
- Translate an algorithmic solution into a working program using a high level programming language.
- Document computer programs.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- One year of high school algebra or equivalent
- Ability to use computer keyboard and mouse

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math and algebra skills. For a description of basic math, see the Basic Education section of this catalog.

This can also be the first year of the two-year Microcomputer-Specialist (CIS) program on the Green Bay campus.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Microcomputer Consultant, Microcomputer Programmer, or Microcomputer Sales Representative.

MICROCOMPUTER CONSULTANT: provides one-on-one problem solving for users.

MICROCOMPUTER PROGRAMMER: performs detailed program design, coding, testing, debugging, documentation, and implementation of online or interactive systems.

MICROCOMPUTER SALES REPRESENTATIVE: makes customer calls, establishes customer contacts, identifies customer needs, and prepares proposals.

With additional education and/or work experience, a graduate may find employment as:
- Microcomputer Trainer
- Network Assistant

CURRICULUM

The Microcomputer Applications Software Technician Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 34 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-101-102	Accounting-Intro	3
10-107-161	Micro Software 1-Intro	4
10-107-162	Micro Hardware	4
10-801-195	Communication-Written	3
10-804-151	Math-Data Proc Logic	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

Course No.	Description	Credits
10-102-158	Business-Intro	3
10-107-171	Micro Software 2-Excel	4
10-107-172	Micro Program-Visual Basic	4
10-801-197	Reporting-Technical	3
10-804-161	Math-Data Proc Alg/Stat	3
	SEMESTER TOTAL	**17**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-101-102 ACCOUNTING-INTRODUCTION ...what accounting information is, why it is important, and how it is used by economic decision-makers.

10-107-161 MICRO SOFTWARE 1-INTRODUCTION ...elementary DOS commands, EDIT, batch file programming, advanced DOS commands, beginning Microsoft Word features, Windows 95, and introduction to Microsoft PowerPoint.

10-107-162 MICRO HARDWARE ...function, installation, and configuration of basic microcomputer hardware components and peripheral devices; basic maintenance procedures; use of diagnostic and utility software; memory management; and telecommunications concepts. Requires DOS exposure.

10-107-171 MICRO SOFTWARE 2-EXCEL ...comprehensive and rigorous coverage of spreadsheet concepts using Microsoft Excel: evaluation, user design, development, testing, documentation, macros, and automation of spreadsheets. Requires Windows experience.

10-107-172 MICRO PROGRAMMING-VISUAL BASIC ...program definition and design, form design, coding, testing, debugging, interactive programs, sequential and random access files, and an introduction to data structures. Requires Windows experience.

10-804-151 MATH-DATA PROCESSING LOGIC ...algorithms, percent applications, interest applications, inventory, depreciation, payroll, hexadecimal arithmetic, flow diagrams, sets, logic, and decision tables.

10-804-161 MATH-DATA PROCESSING ALGEGRA/STATISTICS ...algebraic expressions, equations, functions, systems of equations, determinants, linear programming, presentation of statistical data, measures of central tendency and dispersion, normal distribution, probability, * and chi-squares. (*alternative or optional topics)

Descriptions of courses not found on this page can be found in the back of the catalog.

Microcomputer Specialist (CIS)

Program Code 101073

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361.

The first year of the program is also offered on the Sturgeon Bay campus: (920) 743-2207. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Microcomputer Specialist program emphasizes problem solving using current software packages, programming in Visual BASIC, hardware configurations, networking, operating systems, and software system design.

A graduate of this program will be able to:

- Apply emerging technology.
- Train end users.
- Manipulate a DOS-based file system using DOS commands.
- Document computer programs.
- Maintain microcomputer hardware.
- Configure microcomputer systems.
- Design user-friendly spreadsheet applications.
- Implement customized relational database systems.
- Automate word processing operations using macros and programming techniques.
- Perform network operations within a UNIX environment.
- Design effective presentations using presentation management software.
- Control the operations of a Novell network.
- Differentiate between various network topologies and protocols.
- Generate algorithmic solutions to business problems.
- Maintain users' Windows-based environments.
- Design batch files in a DOS or network environment.
- Secure employment in the field.
- Solve business problems through the application of microcomputer technology.
- Research technological advances.
- Translate an algorithmic solution into a working program using a high level programming language.
- Design effective documents using Word Processing software.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- One year of high school algebra or equivalency
- Ability to use computer keyboard and mouse

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math and algebra skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Microcomputer Consultant, Microcomputer Information Center Specialist, Microcomputer Programmer, Microcomputer Sales Representative, Microcomputer Trainer, or Network Assistant.

MICROCOMPUTER CONSULTANT: provides one-on-one problem solving for users.

MICROCOMPUTER INFORMATION CENTER SPECIALIST: develops customized user menus, installs software packages, administers networks, and is a support technician for software packages.

MICROCOMPUTER PROGRAMMER: performs detailed program design, coding, testing, debugging, documentation, and implementation of online or interactive systems.

MICROCOMPUTER SALES REPRESENTATIVE: makes customer calls, establishes customer contacts, identifies customer needs, and prepares proposals.

MICROCOMPUTER TRAINER: trains employees on software packages which enable the user to solve problems on an individual basis.

NETWORK ASSISTANT: helps to configure networks, install hardware and software, and train users.

With additional education and/or work experience, graduates may find other opportunities for employment.

- Network Administrator
- Database Administrator
- Internet Site Administrator
- Hardware Technician
- CIS Department Supervisor

CURRICULUM

The Microcomputer Specialist Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-101-102	Accounting-Intro	3
10-107-161	Micro Software 1-Intro	4
10-107-162	Micro Hardware	4
10-801-195	Communication-Written	3
10-804-151	Math-Data Proc Logic	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-102-158	Business-Intro	3
10-107-171	Micro Software 2-Excel	4
10-107-172	Micro Program-Visual Basic	4
10-801-197	Reporting-Technical	3
10-804-161	Math-Data Proc Alg/Stat	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

10-107-181	Micro Software 3-Access	4
10-107-182	Micro Operating Systems	4
10-809-197	Society-Amer Contemp	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

10-107-191	Micro Software 4-Adv	4
10-107-193	Micro Internship	3
10-107-194	Micro Documentation	2
10-107-195	Micro Training	2
10-809-195	Economics	3
	Elective	3
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES: Micro Programming in "C" (10-107-173), Micro Hardware-Advanced (10-107-158), Network: LINUX-Intro (10-107-155).

NOTE: A student desiring a strong financial background or a student planning to double major in Accounting is advised to substitute the four-credit Accounting 1 (10-101-110) for the three-credit Introduction to Accounting (10-101-102). To discuss this further, please contact an NWTC counselor.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-107-161 MICRO SOFTWARE 1-INTRODUCTION ...elementary DOS commands, EDIT, batch file programming, advanced DOS commands, beginning Microsoft Word features, Windows 95, and introduction to Microsoft PowerPoint.

10-107-162 MICRO HARDWARE ...function, installation, and configuration of basic microcomputer hardware components and peripheral devices; basic maintenance procedures; use of diagnostic and utility software; memory management; and telecommunications concepts. Requires DOS exposure.

10-107-171 MICRO SOFTWARE 2-EXCEL ...comprehensive and rigorous coverage of spreadsheet concepts using Microsoft Excel: evaluation, user design, development, testing, documentation, macros, and automation of spreadsheets. Requires Windows experience.

10-107-172 MICRO PROGRAMMING-VISUAL BASIC ...program definition and design, form design, coding, testing, debugging, interactive programs, sequential and random access files, and an introduction to data structures. Requires Windows experience.

10-107-181 MICRO SOFTWARE 3-ACCESS ...database management and application development including design, automation, and use of relational database management systems using Microsoft Access. (Prerequisites: 10-107-171, Micro Software 2-Excel; 10-107-172, Micro Programming-Visual Basic)

10-107-182 MICROCOMPUTER OPERATING SYSTEMS ...creation of microcomputer systems: single machine systems including advanced MS-DOS commands and Windows and multi-user systems including Novell Netware and Unix. (Prerequisites: 10-107-161, Micro Software 1 - Intro; 10-107-162, Microcomputer Hardware)

10-107-191 MICRO SOFTWARE 4-ADVANCED ...exploration, evaluation, and comparison of specialized software packages: advanced word processing with Microsoft Word, HTMLcoding, Java Script programming, and Java. (Prerequisite: 10-107-172, Micro Programming-Visual Basic)

10-107-193 MICRO INTERNSHIP ...individual on-the-job training: consulting with users in design, development, testing, debugging, and documentation problems; training in uses of software packages; configuring and installing hardware and networks. Course should be taken during the last semester.

10-107-194 MICRO DOCUMENTATION ...students plan documentation content and delivery methods; develop online, context sensitive, and written documentation, become familiar with ISO 9000 standards, package, PDF files, and create compiled help modules.

10-107-195 MICRO TRAINING ...students learn effective presentation skills, plan training content and delivery methods, write lesson plans, provide training materials, conduct training sessions, and assess learners' grasp of stated objectives.

Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN **123** TECHNICAL COLLEGE

Model Building Design & Construction

ASSOCIATE DEGREE - TWO YEARS

Program Code 106142

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Model Building Design & Construction prepares students to build in a variety of three dimensional models, such as architectural, mechanical, product development, prototype, and special effects.

Graduates of the Industrial Model Building Program will be able to:

- Safely operate all hand and stationary tools typically used in a professional model shop.
- Create jigs and fixtures necessary for special machining operations.
- Develop planning strategies necessary to translate two-dimensional information into a 3D model.
- Work efficiently as a part of a team, or independently.
- Effectively estimate the time and cost of a model.
- Use critical thinking and problem solving techniques in the construction of a model.
- Create programs to be used on CNC (computer numerical control) milling machines using Surf CAM software.
- Create a variety of computer aided drawings using AutoCAD, Solidworks & Mechanical Desktop.
- Produce highly detailed and accurate parts using the laser machining center.
- Construct 3D models using a variety of rapid prototyping processes.
- Build patterns and molds to be used for vacuum forming.
- Fabricate silicone rubber molds and rigid molds suitable for casting.
- Apply a variety of industrial finishes on various materials.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in mathematics and science
- High school Algebra or equivalent

READING LEVEL

Textbook readability within this program has an average level of 12th grade.

MATH LEVEL

Students should have mastered algebra skills before entering this program. For a description of algebra skills, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as an entry level Model Builder in the following areas: Architectural, Prototype, Engineering Design, Legal, Props and Special effects, and Pattern and Mold Making.

ARCHITECTURALMODEL BUILDER: translates to scale all architectural drawings using plot plans, elevations, sections, and details to construct three dimensional models using a wide variety of materials and processes.

PROTOTYPE MODEL BUILDER: provides research and development on new products, works with molding, and makes models for all types of industries such as toy and automobile manufacturers so that the model will look like the finished product before production begins.

ENGINEERING DESIGN: translates engineering data and vendor information into scale models or CAD models for use with Rapid Prototyping Processes. Usually employed in design and development of new products or systems.

LEGAL MODELBUILDER: creates models that help win court cases by allowing a judge and jury to see a three-dimensional representation of the scene of an accident, injury, or crime.

PROPS AND SPECIAL EFFECTS MODEL BUILDER: makes models for the movie, television, and stage play industries.

PATTERN AND MOLD MAKER: fabricates wood, plastic, or metal patterns and molds for casting parts.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Architectural Design Model Builder
- Mechanical Prototype Designer
- Computer Numerical Control Machinery Programmer/Operator
- Rapid Prototyping Operator
- Free-Lance Model Builder
- Model Shop Supervisor

CURRICULUM

The Industrial Model Building Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-420-151	Machine Tool-Modelmakers 1	3
10-606-112	Engineering Applications	1
10-606-113	CAD	2
10-606-119	Sketching-Technical	2
10-614-114	Model Building-Intro	4
10-801-196	Oral/Interpers Communication	3
10-804-130	Algebra/Trigonometry	3
	SEMESTER TOTAL	**18**

SECOND SEMESTER

10-420-161	Machine Tool-Modelmakers 2	3
10-614-122	Model Layout/Design	3
10-614-124	Design Visualization	5
10-804-131	Algebra-Inter	3
10-809-197	Society-Amer Contemp	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

10-614-134	Engineering Models	5
10-614-136	Modeling 3d-Cad	3
10-614-138	CNC Machining, Advanced	3
10-801-195	Communication-Written	3
	Elective	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

10-614-144	Model Applications-Adv OR	4
10-614-145	Model Building Internship	4
10-801-197	Reporting-Technical	3
10-806-150	Physics 1-Technical	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**16**

SUGGESTED ELECTIVES: Machine Models (10-614-172), Model Finishing (10-614-176), Visual Problem Solving (10-614-171), Internship (10-614-195).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-420-151 MACHINE TOOL-MODELMAKERS 1
...introduction to machine shop fundamentals using precision measuring instruments; performing machine tool operations on a metal lathe, vertical and horizontal milling machines and surface grinders; and basic foundry applications.

10-420-161 MACHINE TOOL-MODELMAKERS 2
...advanced machining and layout skills using a variety of metals utilizing vertical, horizontal, and CNC milling machines, metal lathes, and surface grinders, as well as sheet metal layout and welding basics. (Prerequisite: 10-420-151, Machine Tool-Model Makers 1)

10-606-112 ENGINEERING APPLICATIONS
...basics of a computer system, computer terminology, Windows NT, Microsoft Word, Microsoft Excel, and AutoCAD.

10-606-113 CAD (COMPUTER AIDED DRAFTING)
...computer aided drafting using AutoCAD software focusing on template settings; creating and manipulating layers; basic drawing, editing, and inquiry commands; blocks and attributes; and plotting. (Prerequisites: 10-606-112, Engineering Applications; 10-606-119, Sketching-Technical)

10-614-114 MODELBUILDING-INTRODUCTION
...introduction to 3D model building using a variety of materials, machine processes, and fabrication techniques including CNC milling with an emphasis on accuracy, professionalism, and working within specified tolerances.

10-614-122 MODELLAYOUT/DESIGN ...creation of advanced mechanical and architectural computer aided drawings using AutoCAD Solidworks, and Surf CAM software to produce 2-axis and 3-axis parts on a CNC milling machine. (Prerequisite: 10-606-113, Computer Aided Drafting)

10-614-124 DESIGN VISUALIZATION ...planning and construction stages of product models and architectural models focusing on fabrication methods, material selection, CNC machining, painting and finishing techniques, and model photography. (Prerequisites: 10-614-114, Model Building-Intro; 10-606-113, CAD)

10-614-134 ENGINEERING MODELS
...engineering/design modeling, power and hand tools, materials and techniques; job responsibilities and relations with other disciplines; constructing engineering/design models; basic mold making; and Rapid Prototyping model processes. (Corequisite: 10-614-114, Model Building-Intro)

10-614-136 MODELING 3D-CAD ...solid modeling (3D drawing) using AutoCAD, Solid works, and Mechanical Desktop; creating isometric, 3D wireframe, 3D surface, and 3D solid models/drawings; rapid prototyping; importing and exporting of data. (Prerequisite: 10-606-113, Computer Aided Drafting)

10-614-138 CNC MACHINING, ADVANCED
...create two and three dimensional drawings, and tool paths using SurfCAM software. Parts will be machined on the CNC milling machine using materials typically used in the model building industry.

10-614-144 MODELAPPLICATIONS-ADVANCED ...safe use of hand and power tools; plastics; materials and techniques; patterns, mold making, and flexible molds; limited run parts; training models; product/prototype model; rapid prototyping.

10-614-145 MODELBUILDING INTERNSHIP
...cooperative agreement with a professional model making facility in which the student is paid to work for the company while learning on the job to be a professional model maker.

Network Specialist (CIS) Program Code 101078

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Network Specialist teaches students to design, install, configure, and maintain computer networks.

Graduates of this program will be able to:
- Design a local area network (LAN) per specifications.
- Construct a local area network using the required physical components.
- Install network hardware including modems, interface cards, and cabling.
- Install network operating system software, application software, and databases.
- Configure software and databases per specifications.
- Assign network security and access privileges per specifications.
- Apply diagnostic tools to troubleshoot and resolve problems.
- Fine-tune network performance based upon analysis of statistical data.
- Create effective user environments using Microsoft, Novell, and UNIX/LINUX file servers.
- Differentiate between various network topologies and protocols.
- Use word processing, spreadsheet, and database software to solve business problems.
- Develop Internet, intranet, and extranet facilities and interfaces per specifications.
- Develop technical documentation on network configuration, security, and maintenance.
- Communicate technical information effectively.
- Apply project management techniques.
- Utilize emerging technology to upgrade existing networks and improve performance.
- Maintain microcomputer hardware and peripherals.
- Develop a wide area network (WAN) proposal per specifications.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- One year of high school algebra or equivalency
- User level familiarity with one or more computer operating environments
- Ability to interact with a computer system (keyboarding or assist device)

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic algebra skills. For a description of algebra, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Network Support Specialist and Network Administrator.

NETWORK SUPPORT SPECIALIST: designs and configures networks, installs hardware and software components, and maintains network performance.

NETWORK ADMINISTRATOR: develops security procedures, assigns access rights, installs application software, and configures user profiles.

Successful completion of the course work in this program will also prepare a student should he or she decide to pursue vendor certification as a Network Engineer.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Cable Installer
- UNIX Administrator
- PC Support Specialist
- Help Desk Technician
- IS Certifications, such as CNE, MSCE, A+, Network+, and CCNA
- Web Developer
- Network Analyst

CURRICULUM

The Network Specialist Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-103	Micro Basics MS Office 1	3
10-107-163	Network: Structures 1	3
10-107-164	Network: Operating Systems	2
10-801-195	Communication-Written	3
10-804-151	Math-Data Proc Logic	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-102-158	Business-Intro	3
10-103-141	Micro: Access-Intro	1
10-107-156	Network: UNIX-Intro	2
10-107-162	Micro Hardware	4
10-107-166	Network: Admin-Novell	2
10-107-167	Network: Admin-Windows/NT	2
10-107-168	Network: Structures 2	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

10-107-186	Network: Admin-Inter	4
10-107-188	Network: Applications	4
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

10-107-144	Information Tech-Emerging	2
10-107-194	Micro Documentation	2
10-107-196	Network: Admin-Adv	4
10-107-198	Network: Internship	3
10-801-198	Speech	3
	Elective	3
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES: Network Management & Troubleshooting (10-107-150), Internet Security & Firewalls (10-107-154), Micro Hardware-Advanced (10-107-158), Network: LINUX-Intro (10-107-155), Micro Programming-Visual Basic (10-107-172), Project and Change Management 1-MS Project (10-107-151), Project and Change Management 2-Project Manager (10-107-152), Project and Change Management 3-Case Studies (10-107-153).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-107-156 NETWORK: UNIX-INTRODUCTION ...login/boot-up process, file/directory structure, editors, shell programming, setting up users/groups, printing systems, and installation/configuration.

10-107-162 MICRO HARDWARE ...function, installation, and configuration of basic microcomputer hardware components and peripheral devices; basic maintenance procedures; use of diagnostic and utility software; memory management; and telecommunications concepts. Requires DOS exposure.

10-107-163 NETWORK: STRUCTURES 1 ...cable characteristics and termination, structured cabling systems, OSI reference model, IPaddressing and subnetting, address resolution protocol, network architectures, basic router configuration, and routing information protocol.

10-107-164 NETWORK: OPERATING SYSTEMS ...basic OS functions, file systems, OS installation and configuration, configuration of I/O and storage devices, basic computer communications, standard system maintenance procedures, and batch files.

10-107-166 NETWORK: ADMINISTRATION-NOVELL ...NOS and client installation, user and group accounts, trustee rights to directories and files, login scripts, NDS tree design and navigation, NDS rights, Novell legacy, and distributed printing systems. (Prerequisite: 10-107-164, Network: Operating Systems)

10-107-167 NETWORK: ADMINISTRATION-WINDOWS/NT ...peer-to-peer networks, NOS installation, user accounts, local and global groups, permission to folders and shares, domain models, inter-domain trusts, NT distributed printing system. (Prerequisite: 10-107-164, Network:Operating Systems)

10-107-168 NETWORK: STRUCTURES 2 ...configuring routing protocols, access control lists, broadcast and collision domains, Ethernet switches, VLANs, serial protocols, WAN services, protocol analysis, cellular communications, and Internet access alternatives. (Prerequisite: 10-107-163, Network: Structures 1)

10-107-186 NETWORK: ADMINISTRATION-INTERMEDIATE ...NOS installation, server performance monitoring and tuning, remote client administration, DHCP, WINS, DNS, directory service and domain management, multi-vendor networks, and remote access to networks. (Prerequisites: 10-107-166, Network: Administration-Novell; 10-107-167, Network: Administration-NT)

10-107-188 NETWORK: APPLICATIONS ...fundamentals of project management, software installation in a network environment, application launching options, application and data security, Groupware applications, Network utility software, and effective user support. (Prerequisites: 10-107-166, Network: Administration-Novell; 10-107-167, Network: Administration-NT)

10-107-196 NETWORK: ADMINISTRATION-ADVANCED ...intranet Web site planning, implementation of Web pages using a variety of development tools, introduction to the principles of business to business electronic commerce. (Prerequisites: 10-107-186, Network: Administration-Intermediate; 10-107-188, Network:Applications)

10-107-198 NETWORK: INTERNSHIP ...individual on-the-job training: consulting with users in design, development, testing, debugging, and documentation problems; training in uses of network facilities; and/or configuring and installing network hardware and software. Course should be taken during the last semester.

Nursing Assistant Program Code 305101

TECHNICAL DIPLOMA-120 HOURS, 3 CREDITS

Offered throughout the District. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Nursing Assistants assist in the care of sick and injured patients under the supervision of the nursing and/or medical staff. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Nursing Assistant program will be able to:

• Obtain employment as a Nursing Assistant or Home Health Aid.
• Display behavior which supports and promotes clients' rights.
• Perform basic nursing/personal care skills.
• Assist clients in attaining and maintaining independence.
• Interact effectively with clients experiencing dementias.
• Pass the written exam for the Nursing Assistant Directory.
• Interact on a one-to-one basis with clients, with sensitivity to their emotional, social, and mental health.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Be at least 17 years old
• Have a medical examination satisfactorily completed within three months before entering program
• An interview/orientation
• Placement in the NWTC mathematics and reading tests
• All students are required to complete an American Heart Association Health Care Provider course prior to program entry.

READING LEVEL

Textbook readability within this program has an average level of 9th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Nursing Assistant or Home Health Aide. Individuals with abuse records may not be eligible for employment in nursing homes.

NURSING ASSISTANT: performs simple basic nursing tasks under the supervision and direction of the Registered Nurse in a nursing home, home health environment, and hospital setting.

HOME HEALTH AIDE: performs basic nursing tasks under the supervision and direction of the Registered Nurse in a home health environment.

CURRICULUM

The Nursing Assistant Technical Diploma is a 120-hour program. Upon graduation, a student will have completed three credits.

FIRST SEMESTER

Course No.	Description	Credits
30-510-355	Nursing Assistant-Basic	3
	SEMESTER TOTAL	**3**

This program is not eligible for financial aid.

COURSE DESCRIPTIONS

This course provides an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

510-355 NURSING ASSISTANT-BASIC ...the entry-level tasks of a nursing assistant/home health aide supportive to nursing in the care of sick, injured, or elderly people, under the supervision of a licensed nurse. (Prerequisite: admission to program).

Descriptions of courses not found on this page can be found in the back of the catalog.

Nursing-Associate Degree
Program Code 105101

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Graduates plan, provide, and evaluate patient care. They act as liaisons between physicians, other health care workers, and the patient. They supervise other health care providers.

The Nursing-Associate Degree program is accredited by the National League for Nursing Accrediting Commission (NLNAC),and the Wisconsin State Board of Nursing.

> National League for Nursing
> Accrediting Commission (NLNAC)
> 61 Broadway, New York,NY10006
> (212)363-5555 x153, FAX (212)812-0390
>
> Wisconsin Board of Nursing
> Dept. of Regulation & Licensing
> 1400 East Washington St.
> P.O. Box 8935, Madison, WI 53708-8935
> (608)266-2112

Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Nursing-Associate Degree program will be able to:
• Think critically.
• Communicate effectively.
• Administer therapeutic nursing interventions.
• Pass NCLEX-RN at or above the State or National average.
• Transfer credits from ADN to BSN programs.
• Obtain employment as a registered nurse.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• High school diploma or equivalent
• One year of biology, chemistry (if taken more than 5 years ago, student must take Basic Chemistry or demonstrate proficiency),

Algebra, and advanced math or attain 80% on the NWTC mathematics placement test
• Minimum standard composite score of 20 on the ACT assessment (if math or reading is 16 or below, remediation is required)
• Complete an interview or orientation
• Have satisfactorily completed a medical examination within three months before beginning the program
• All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.
• All students must be federally certified in the Wisconsin Nursing Assistant Directory and in good standing on the Wisconsin DHFS Directory.

EMPLOYMENT POTENTIAL

Agraduate of the program who becomes a Registered Nurse has the potential for employment as a Staff Nurse or Charge Nurse in a variety of health care settings.

STAFF NURSE: is responsible for making nursing diagnoses and treating human responses to actual and potential health problems in health care facilities and insurance areas.

CHARGE NURSE: assumes the same responsibilities of a registered nurse in addition to directing the work flow and coordinating and managing the provision of care for patients and other staff in a medical facility.

Graduates of this program are eligible to take the Wisconsin State Board Examination for licensure as a registered nurse (RN). Individuals with criminal records may be ineligible for licensure. Individuals with abuse records may be ineligible for employment in nursing homes.

Graduates are eligible to apply for direct transfer of credit in the nursing program at the University of Wisconsin-Green Bay, and private colleges and universities.

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills and Accuplacer tests for Algebra. For a description of basic math, see the Basic Education section of this catalog.

NOTE: A student who does not meet the above requirements should consult an NWTC counselor about ways to meet deficiencies through testing or course work.

CURRICULUM

The Nursing Associate Degree program is a two-year, one-summer, six-semester program. Upon graduation a student will have completed 72 credits.

SUMMER OR PRIOR SEMESTER

Course No.	Description	Credits
* 10-806-163	Chemistry-Bioorganic	3
* 10-806-182	Anatomy/Physiology 1	3
	SEMESTER TOTAL	6
	TOTALCREDITS	72

FIRST SEMESTER

* 10-510-113	Nursing Process 1	3
* 10-510-114	Nursing Process 2	4
* 10-801-196	Oral/Interpers Communication	3
* 10-806-187	Anatomy/Physiology 2	3
10-809-198	Psychology-Intro	3
	SEMESTER TOTAL	16

SECOND SEMESTER

* 10-510-120	Nursing Process 3	4
* 10-510-122	Nursing Process 4	4
* 10-801-195	Communication-Written	3
* 10-806-194	Microbiology	3
10-809-190	Human Growth/Development	3
	SEMESTER TOTAL	17

THIRD SEMESTER

* 10-510-132	Nursing Process 5	5
* 10-510-134	Nursing Process 6	2
* 10-510-136	Nursing Pharmacology-Appl	2
* 10-510-141	Nursing Process 7	5
10-809-196	Sociology-Intro	3
	SEMESTER TOTAL	17

FOURTH SEMESTER

* 10-510-150	Nursing Process 8	4
* 10-510-152	Nursing Process 9	4
* 10-510-154	Nursing Process 10	2
	Elective	3
	Elective	3
	SEMESTER TOTAL	16

NOTE: No final grade lower than a C is acceptable in the nursing or natural science courses. A student must repeat the particular course with C or better final grade to continue in or graduate from this program. If the course is sequential, the successful retake must occur before continuing the sequence.

Licensed Practical Nurses may receive advanced standing for nursing courses in the first year of the program. Introduction to AD Nursing (10-510-111) must be taken concurrent with second year nursing courses. Call (920)498-5530 for information.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-510-113 NURSING PROCESS 1 ...nursing process; vital signs; client needs: safety, hygiene, mobility, sensory, nutrition, comfort and sleep; health promotion; client teaching; role of nursing; health care system. (Prerequisite: Accepted into Nursing-Associate Degree)

10-510-114 NURSING PROCESS 2 ...client information systems; medication administration; basic physical examination; infection control; nursing process to meet client elimination; integumentary, oxygenation, fluid/electrolyte; stress/adaptation; life cycle; grief/loss; and cultural needs. (Prerequisite: 10-510-113, Nursing Process 1; Corequisite: 10-806-187, Anatomy/Physiology 2)

10-510-120 NURSING PROCESS 3 ... healthy and at risk woman/family duri ng pregnancy, labor and delivery, and after delivery; the healthy and at risk newborn; trends and issues in maternal child nursing; and family planning. (Prerequisite: 10-510-114, Nursing Process 2; Corequisite: 10-809-190, Human Growth/Development)

10-510-122 NURSING PROCESS 4 ...nursing process used to meet patient psychosocial needs; role of the nurse as provider and manager of care; of care, and member of discipline of nursing. (Prerequisite: 10-510-114, Nursing Process 2; Corequisite: 10-809-190, Human Growth/Development)

10-510-132 NURSING PROCESS 5 ...the nursing process as a method to meet needs of clients with surgical requirements, fluid, and electrolyte imbalance, respiratory dysfunction, altered cellular metabolism, and endocrine dysfunction, excluding diabetes mellitus. (Prerequisites: 10-510-120, Nursing Process 3; 10-510-122, Nursing Process 4; 10-806-194, Microbiology)

10-510-134 NURSING PROCESS 6 ...using the nursing process in meeting the biopsychosocial needs of children/families, preventing illness, restoring health, and implementing teaching/learning needs. (Corequisites: 10-510-132, Nursing Process 5; 10-510-141, Nursing Process 7)

10-510-136 NURSING PHARMACOLOGY-APPLIED ...basic concepts; therapeutic classifications; characteristic drug groups; influences on drug effects; application of nursing process; principles of therapy; drug interactions; legal, ethical, economical issues; and OTC drugs.

10-510-141 NURSING PROCESS 7 ...apply the nursing process to meet needs of clients with diabetes mellitus, peripheral vascular disease, hypertension, alterations in coronary conduction, cardiac, urological and gastrointestinal disorders, health maintenance; and health promotion.

10-510-150 NURSING PROCESS 8 ...nursing process used to meet the client's biopsyphosocial needs in neurology, rehabilitation, mobility, burns, emergency care; member of the discipline valuing ethics, legal guidelines, professional practice; and change agent behaviors. (Prerequisite: 10-510-144, Nursing Process 7)

10-510-152 NURSING PROCESS 9 ...attitudes toward aging, manager of care role, biopsychosocial needs of older adults, including visual impairment, assessment, clients with complex needs, community-based health care systems, and home health care management. (Prerequisite: 10-510-150, Nursing Process 8)

10-510-154 NURSING PROCESS 10 ...role transition strategies, employability traits, NLN role refinement within a realistic clinical environment and NCLEX-RN preparation. (Prerequisite: 10-510-152, Nursing Process 9)

Descriptions of courses not found on this page can be found in the back of the catalog.

Office Assistant   Program Code 311061

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361.
Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Office Assistant prepares students for entry-level office positions. Skills are developed in word processing, spreadsheet, presentation graphics, machine transcription, telephone, records management, machine calculation, office procedures, and keyboarding. Credits earned in the program can be applied to the Administrative Assistant Associate Degree program.

Graduates of this program will be able to:
• Provide customer service.
• Manage information.
• Maintain financial reports.
• Create publications/presentations.
• Maintain equipment.
• Process documents.
• Coordinate meeting activities.
• Process mail.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Basic math
• Keyboarding skill of 20 wpm using the TOUCH method.

READING LEVEL

Textbook readability within this program has an average level of 11th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as Office Assistant, File Clerk, Receptionist, Transcriptionist, Word Processor, or Data Entry/Typist.

OFFICE ASSISTANT: performs a variety of duties related to typing, filing, transcribing, word processing, telephoning, making appointments, recordkeeping, setting up meetings, handling customer relations, entering data, and handling incoming and outgoing mail.

FILE CLERK: works in offices with a great volume of records in which indexing, cross-referencing, filing, retrieving, and charging-out records are important job functions.

RECEPTIONIST: operates simple to complex telephone systems; handles customer relations; and assists with other office work such as filing, typing, processing mail, and scheduling.

TRANSCRIPTIONIST: serves as a word processor using transcribing equipment and word processing software.

WORD PROCESSOR: works in specialized departments of a company producing all forms of documents for the firm: editing, revising, proofreading, and typing with speed and accuracy using word processing software.

DATA ENTRY/TYPIST: enters data and produces correspondence, reports, and documents needed by the office using word processing software.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Administrative Assistant
• Executive Secretary
• Team Leader
• Office Manager

CURRICULUM

The Office Assistant Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 36 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-103-151	Micro: PowerPoint-Intro	1
10-106-103	Info Process Principles	3
10-106-105	Keyboard Skillbuilding 1	2
	OR	
10-106-107	Keyboarding-Speed/Accuracy	1
	AND	
10-106-110	Microcomputer-10 Key Pad	1
10-106-131	Transcription Fund 1	3
10-106-138	Software Skills 1	3
	OR	
10-103-111	Micro: Windows-Introduction	1
	AND	
10-103-121	Micro: Word-Introduction	1
	AND	
10-103-122	Micro: Word-Part 2	1
10-106-153	Professional Profile	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
10-106-132	Transcription Fund 2	2
10-106-139	Software Skills 2	2
	OR	
10-103-131	Micro: Excel-Introduction	1
	AND	
10-103-132	Micro: Excel-Part 2	1
10-106-142	Software Projects	3
10-106-143	Office Techniques-Applied	3
10-106-152	Records Management	2
10-106-156	Keyboard Skillbuilding 2	2
	OR	
10-106-111	Keyboard Skill Development	2
10-106-172	Telephone Skills	1
10-801-195	Communication-Written	3
	SEMESTER TOTAL	**18**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-103-111 MICRO: WINDOWS-INTRODUCTION ...Windows management (minimize/maximize/close/resize), document management (create, open, save, find file), help features, shortcuts, My Computer, and Explorer (format, folders/subfolders, move/copy/delete files).

10-103-121 MICRO: WORD-INTRODUCTION ...word processing basics using Microsoft Word 2000 including creating, revising, formatting, and printing; sections, tabs, multiple-page numbering; manipulating text; and creating headers and footers. Requires Windows experience.

10-103-122 MICRO: WORD-PART 2 ...advanced word processing features of Microsoft Word 2000 including merge, columns, tables, templates, styles, borders and clip art, Microsoft draw and WordArt, footnotes and endnotes, and creating a Web page. Requires strong introductory Word skills.

10-103-131 MICRO: EXCEL-INTRODUCTION ...spreadsheet basics using Microsoft Excel 2000: creating/printing worksheets; formulas, functions, copy/move cells, manipulate rows/columns, generate charts. Requires Windows experience.

10-103-132 MICRO: EXCEL-PART 2 ...functions of VLOOKUPand IF, date/time functions, templates, multiple worksheets, linking files through formulas, consolidating worksheets, charts and graphs, datamaps, databases, filters, data tables, and pivot tables. Requires strong introductory Excel skills.

10-103-151 MICRO: POWERPOINT-INTRODUCTION ..data access pages using the Web, prepare overheads, handouts, and slide shows using Wizards, templates, Clipart, WordArt, animation, transitions, and hyperlinks. Requires Windows experience.

10-106-103 INFORMATION PROCESSING PRINCIPLES ...information processing cycle and workflow, terminology, hardware, software, ergonomics, security, systems, Internet, and career opportunities.

10-106-105 KEYBOARD SKILLBUILDING 1 ...skill development on the alphabetic keyboard (minimum—35 words per minute) and on the ten-key pad (minimum—195 numbers per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to touch keyboard at 20 WPM.

10-106-107 KEYBOARDING-SPEED/ACCURACY ...improving speed and accuracy on the alpha keyboard to a minimum of 35 words per minute using diagnostic software in a self-paced environment. Requires ability to touch keyboard at 20 WPM.

10-106-110 MICROCOMPUTER-10 KEY PAD ...correct finger placement, technique, and skill development on the ten-key pad using a computer keyboard developing speed (minimum—195 numbers per minute) using analytic/diagnostic software in a self-paced environment.

10-106-111 KEYBOARD SKILL DEVELOPMENT ...skill development on the alphabetic keyboard to a minimum of 45 words per minute using analytic/diagnostic software in a self-paced environment.

10-106-131 TRANSCRIPTION FUNDAMENTALS 1 ...using the Business English Language skills, software and machine transcription equipment, students will demonstrate fundamentals toward completing professional, mailable effective business documents.

10-106-132 TRANSCRIPTION FUNDAMENTALS 2 ...continued introduction to the use of transcribing equipment with computers to review spelling, word usage, international and Internet research, with emphasis on proofreading.

10-106-138 SOFTWARE SKILLS 1 ...the Windows operating system and Word 2000 including creating, revising, printing, headers/footers, sections, tables, templates, columns, styles, merging, draw and WordArt, and creating a Web page. Requires ability to touch keyboard at 20 WPM.

10-106-139 SOFTWARE SKILLS 2 ...basic and advanced spreadsheet concepts using Excel 2000: creating/printing worksheets, formulas, functions, working with multiple worksheets, linking files, charts/graphs, data lists, analysis tools.

10-106-142 SOFTWARE PROJECTS ...applying Windows 95 and Word 2000 features to manage and format business documents while exercising decision-making skills and enhancing keyboarding skills in a team setting. Requires experience with Windows, and prior completion of an introductory and intermediate courses in Word.

10-106-143 OFFICE TECHNIQUES-APPLIED ...transcribing documents, maintaining supplies/equipment, processing mail, coordinating meeting activities, and a field experience. Course should be taken during the last semester.

10-106-152 RECORDS MANAGEMENT ...organization and management of records departments, equipment; and major systems of classification: alphabetic, numeric, geographic, subject, chronologic, and micro systems.

10-106-153 PROFESSIONALPROFILE ...workplace attributes such as attitude, goal setting, habits, and techniques for success and promotion; leadership and organizational skills; and diversity in the workplace.

10-106-156 KEYBOARD SKILLBUILDING 2 ...skill development on the alphabetic keyboard (minimum—45 words per minute) using analytic/diagnostic software in a structured classroom setting. Requires ability to keyboard at 35 WPM .

10-106-172 TELEPHONE SKILLS ...using the telephone effectively and efficiently in the world of work; telephone features, equipment, messaging, cellular technology, pagers, electronic, and voice mail.

Descriptions of courses not found on this page can be found in the back of the catalog.

Paralegal Program Code 101101

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

A Legal Assistant or Paralegal is a person qualified by education, training, or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency, or other entity who performs specifically designated substantive legal work for which a lawyer is responsible. Paralegals are not authorized to practice law.

Graduates of this program will be able to:
- Describe law office systems and organization.
- Describe state and federal court systems.
- Identify roles and responsibilities of lawyers and paralegals.
- Compare civil, criminal, and administrative procedures.
- Use legal terminology.
- Conduct client interviews.
- Conduct investigations.
- Organize facts and evidence.
- Prepare legal documents.
- Conduct legal and factual research.
- Use correct citation form.
- Comply with rules regarding unauthorized practice of law and professional responsibility.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.
- Ability to use Windows proficiently
- Successful completion of reading and language assessment prior to admission

READING LEVEL

Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Paralegal or Legal Assistant. Paralegals are not authorized to practice law. Paralegals perform work under the supervision of a lawyer in a variety of settings.

A graduate may be employed by a private law firm; insurance company, corporation, bank, private business; legal clinic; agency of the federal, state, or local government; legal service or legal aid office; law departments; special interest group or association; criminal law office; service company or consulting firm; or as a free-lance paralegal.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Law Office Administrator
- Law Office Manager
- Paralegal Supervisor
- Paralegal Instructor
- Corporate Compliance Officer
- Regulatory Specialist
- Law Librarian

The Paralegal Program is approved by the American Bar Association (ABA).

American Bar Association
750 North Lake Shore Drive
Chicago, IL 60611.

Phone: (312) 988-5618.

CURRICULUM

The Paralegal Associate Degree is offered in the day and in the evening. It is a two-year, four-semester program. The program offers both full and part-time completion options. Upon graduation, a student will have completed 66 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-102-150	Law-Business	3
10-110-101	Paralegal-Intro	3
10-801-175	English Composition 1	3
10-801-196	Oral/Interpers Communication	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**15**

SECOND SEMESTER

10-106-141	Information Process-Legal	3
10-110-102	Civil Litigation 1	3
10-110-104	Legal Research	3
10-110-110	Real Estate Mechanics	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	**15**

THIRD SEMESTER

10-110-103	Civil Litigation 2	3
10-110-106	Law-Family	3
10-110-107	Law-Corporate Intro	3
10-110-114	Estates Administration	3
10-890-101	Critical Thinking-Philos	3
	Elective	3
	SEMESTER TOTAL	**18**

FOURTH SEMESTER

10-110-105	Legal Writing	3
10-110-142	Paralegal Internship	3
	OR	
10-110-143	Paralegal Field Study	3
10-110-150	Law-Administrative	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Creditor/Debtor Relations (10-110-122), Paralegal Criminal Procedures (10-110-168), Indian Law (10-110-169).

This program is fully eligible for financial aid.

The Paralegal Program is approved by the American Bar Association (ABA) and is also a member of the American Association for Paralegal Education.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-110-101 PARALEGAL-INTRODUCTION
...introduction to the legal profession: ethics, court system, legal research, and roles of the paralegal.

10-110-102 CIVILLITIGATION 1 ...civil procedure in state and federal courts, the litigation process with emphasis on the paralegal function in investigating and gathering information, and preparing pleadings and motions. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-103 CIVILLITIGATION 2 ...civil litigation including discovery, settlement, trial, and appellate procedure. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-104 LEGALRESEARCH ...legal research strategies, locating and updating primary and secondary legal authorities, and planning and executing manual and computer-assisted legal research. (Prerequisite:10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-105 LEGALWRITING ...advanced writing covering various internal and external legal documents. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-106 LAW-FAMILY ...this course is designed to familiarize the student with basic legal concepts involved in the area of family relations. The primary emphasis will be in the field of divorce. (Prerequisite:10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-107 LAW-CORPORATE INTRODUCTION
...formation, operation, and dissolution of types of business organizations, and substantive and procedural law involving business organizations. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-110 REAL ESTATE MECHANICS ...law of real property, forms of ownership, land description methods, public and private encumbrances, real estate contracts, deeds, financing sources, title evidence, and the closing process. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-114 ESTATES ADMINISTRATION
...property classification; property ownership; succession; wills: modification, revocation, drafting, execution; client contact; probate courts; trust classification; estate planning; ethics; personal representatives; formal probate; summary proceedings; informal probate. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-142 PARALEGALINTERNSHIP ...practical, hands-on experience in an approved office. Through the internship, the paralegal student has the opportunity to apply the theories, skills, and techniques that have been studied in the program. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-143 PARALEGALFIELD STUDY
...in-depth study of an aspect of the legal field approved by the course instructor; an alternative to internship. (Prerequisite:10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law)

10-110-150 LAW-ADMINISTRATIVE ...the paralegal's role in preparation and representation of cases before administrative agencies, structure and authority of administrative agencies, procedures, and substantive state and federal administrative law. (Prerequisite: 10-110-101, Paralegal-intro; Corequisite: 10-102-150, Business Law)

Descriptions of courses not found on this page can be found in the back of the catalog.

Paramedic - Emergency Medical Technician

TECHNICAL DIPLOMA - ONE YEAR

Program Code 305312

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Paramedic-Emergency Medical Technician students perform advanced level ambulance services. These are both private and municipal ambulance services. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Paramedic-Emergency Medical Technician Program will be able to:
• Perform patient assessment.
• Ventilate patients.
• Manage trauma and medical problems.
• Communicate patient information to hospital.
• Develop paramedic-patient interaction.
• Administer medications.
• Administer intravenous therapy.
• Interpret electrocardiograms.

Successful completion of the Paramedic program prepares and entitles the student to take the State of Wisconsin licensing examination for EMT-Paramedics. A graduate is licensed as a paramedic only after successful completion of the licensing examination.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Be currently licensed as an EMT in the State of Wisconsin
• Have a service affiliation with a paramedic ambulance service to complete the required field experience needed to qualify for licensure
• Students not affiliated with a paramedic ambulance service may be admitted to the program. Such students would be required to complete an additional course within the second semester that would permit the completion of the required field experience necessary to qualify for licensure. Additional course costs would accompany this requirement.
• All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Paramedic.

PARAMEDIC: performs advanced level pre-hospital care for paramedic level ambulance services and in hospital emergency departments. These could be either private or municipal employers.

READING LEVEL

Textbook readability within this program has an average level of 15th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM

The Paramedic Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 24 credits.

FIRST SEMESTER

Course No.	Description	Credits
30-531-320	Paramedic Principles 1	6
30-531-321	Paramedic Clinical 1	4
30-531-324	Paramedic Lab 1	2
	SEMESTER TOTAL	**12**

SECOND SEMESTER

Course No.	Description	Credits
30-531-322	Paramedic Principles 2	6
30-531-323	Paramedic Clinical 2	4
30-531-325	Paramedic Lab 2	2
	SEMESTER TOTAL	**12**

This program is fully eligible for financial aid.

NORTHEAST WISCONSIN **136** TECHNICAL COLLEGE

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-531-320 PARAMEDIC PRINCIPLES 1 ...roles and responsibilities of the paramedic, human systems and patient assessment, shock and fluid therapy, pharmacology, assessment/management of respiratory and cardiovascular emergencies. (Prerequisite: Accepted into Paramedic-Emergency Medical Tech)

30-531-321 PARAMEDIC CLINICAL 1 ...paramedic-patient interactions, blood samples, patient assessment, intravenous therapy, airway management, medication administration, assessment/management of respiratory emergencies in supervised clinical practice, and skill development in an acute care hospital.

30-531-322 PARAMEDIC PRINCIPLES 2 ...cardiovascular, neurologic, obstetric and gynecologic, soft tissue, musculoskeletal, acute medical, pediatric, and psychiatric emergencies; operational aspects of EMS. (Prerequisite: 30-531-320, Paramedic Principles 1)

30-531-323 PARAMEDIC CLINICAL 2 ...interpretation of electrocardiograms, assessment/management of cardiovascular, medical, trauma, pediatric, and obstetric emergencies in supervised clinical practice in an acute care hospital. (Prerequisite: 30-531-321, Paramedic Clinical 1)

30-531-324 PARAMEDIC LAB 1 ...management of shock, respiratory, and cardiac emergencies; intravenous therapy; medication administration; endotracheal intubation; advanced airway management skills; and EKG monitoring.

30-531-325 PARAMEDIC LAB 2 ...management of advanced cardiovascular emergencies, advanced trauma management skills, pediatric advanced life support skills, report and communication skills, and preparation skills for practical exam. (Prerequisite: 30-531-324, Paramedic Lab 1)
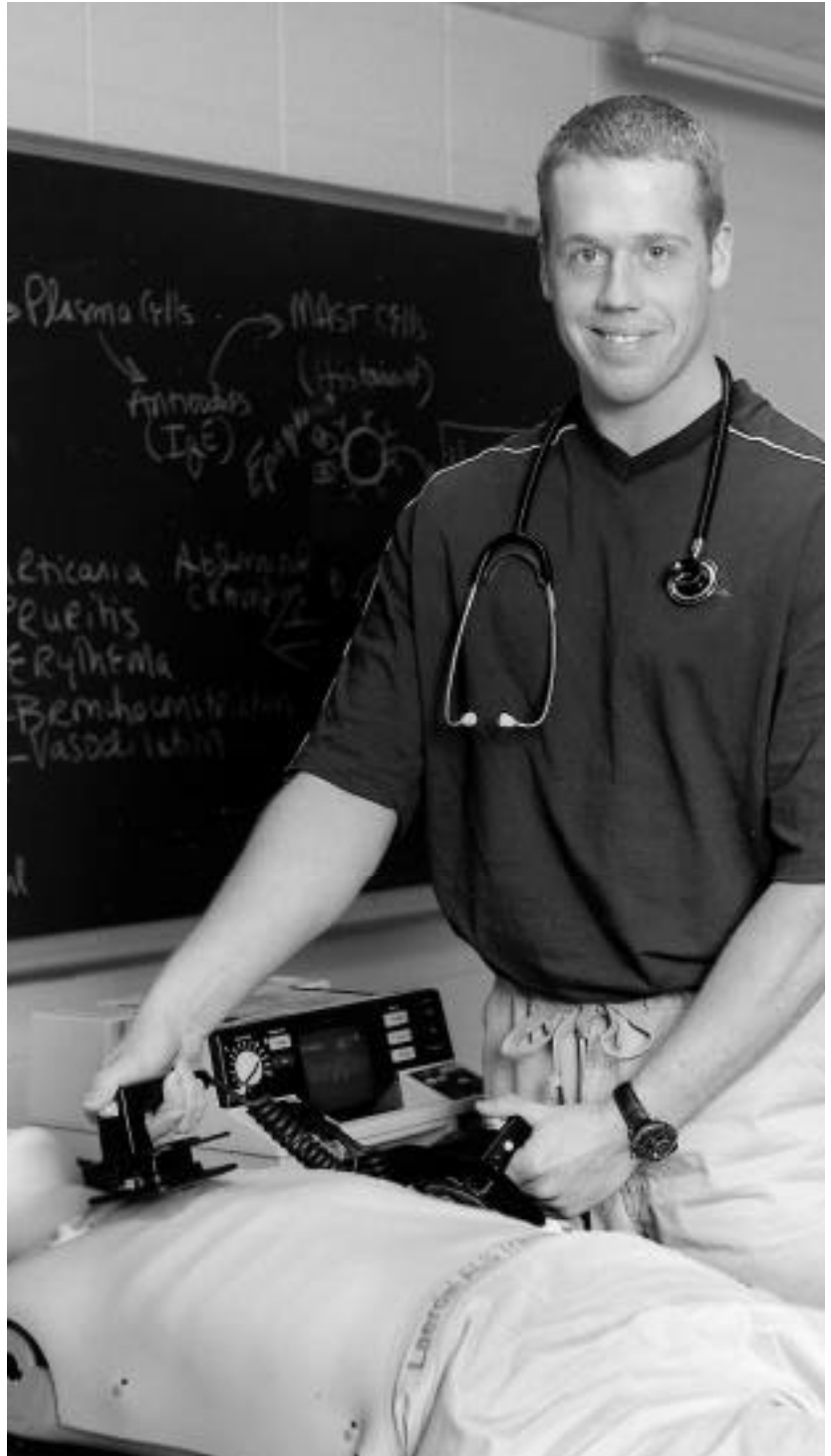
Descriptions of courses not found on this page can be found in the back of the catalog.

Physical Therapist Assistant
Program Code 105241

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION
The Physical Therapist Assistant program educates students to carry out patients' rehabilitation programs under the supervision of a physical therapist. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Drug testing is required by some clinical facilities.

Graduates of the Physical Therapist Assistant program will be able to:
• Perform in a safe manner that minimizes risk to patient, self, and others.
• Conduct self in a responsible manner.
• Interact in a respectful manner.
• Adhere to ethical standards.
• Adhere to legal standards.
• Communicate in ways that are congruent with situational needs.
• Produce documentation to support the delivery of physical therapy services.
• Deliver established patient care to reflect respect for and sensitivity to individual differences.
• Participate in patient status judgments in the clinical environment based on the plan of care established by the physical therapist.
• Perform assessments.
• Discuss the need for modifications to the plan of care established by the physical therapist.
• Perform physical therapy interventions in a technically competent manner.
• Educate others (patients, family, caregivers, staff, students, health professionals) using relevant and effective teaching methods.
• Participate in activities addressing quality of service delivery.
• Participate in addressing patient needs for services other than physical therapy.
• Manage time and financial resources.
• Use physical therapy aides and other support personnel according to legal standards and ethical guidelines.
• Implement a self-directed plan for life-long learning.
• Assist the physical therapist in addressing primary and secondary prevention for individuals and groups.

Students will be required to purchase a name tag, provide their own transportation to clinical facilities, pay for liability insurance for each clinical course, and cover any other expenses related to their fieldwork experiences.

The first year general education and science courses may be taken at Fox Valley Technical College in Appleton; however, all applications must be made through Northeast Wisconsin Technical College.

EMPLOYMENT POTENTIAL
A graduate of the program will have the potential for employment as a Physical Therapist Assistant.

PHYSICAL THERAPIST ASSISTANT: assists the physical therapist in the provision of physical therapy, performs physical therapy interventions and related tasks, carries out operational functions, makes modifications within the scope of the established plan of care, performs documentation and assessments under the direction of the physical therapist.

REQUIREMENTS FOR PROGRAM ENTRY
NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Minimum standard composite score of 20 on the ACT assessment
• High school diploma or equivalency
• High school algebra (or attain a minimum of 80% on the NWTC algebra examination)
• One year of biology or equivalent
• One year of advanced biology, chemistry, physics, or equivalent; all with grades of C or better
• Have a medical examination satisfactorily completed within three months before entering the program
• All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements

READING LEVEL
Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL
Students should have mastered basic math skills and Accuplacer tests for Algebra. For a description of basic math, see the Basic Education section of this catalog.

NOTE: A student who does not meet the above requirements should consult with an NWTC counselor about ways to make up any deficiencies through testing or course work.

CURRICULUM
The Physical Therapist Assistant Associate Degree is a two-year, one-summer, five-semester program. Upon graduation, a student will have completed 72 credits.

FIRST SEMESTER
Course No.	Description	Credits
* 10-524-112	Physical Therapist Asst-Intro	2
* 10-524-114	Physical Therapist Asst 1	3
* 10-524-118	PTA-Pathology Concepts	2
10-801-195	Communication-Written	3
10-806-116	Physics	4
10-806-182	Anatomy/Physiology 1	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER
* 10-524-113	PTA-Measurement Test	3
* 10-524-124	Physical Therapist Asst 2	4
10-801-196	Oral/Interpers Communication	3
10-806-188	Anatomy/Physiology 2-Pta	3
10-809-198	Psychology-Intro	3
	SEMESTER TOTAL	**16**

THIRD SEMESTER (SUMMER)
* 10-524-132	Physical Therapist Assistant 3	3
* 10-524-133	Physical Therapist Assist-Peds	2
10-809-196	Sociology-Intro	3
	SEMESTER TOTAL	**8**
	TOTALCREDITS	**72**

THIRD SEMESTER
* 10-524-134	Clinical Problems 1	1
* 10-524-137	PTA Fieldwork-1A	1
* 10-524-138	PTA Fieldwork-1B	1
* 10-524-140	Physical Therapist Asst 4	5
* 10-524-144	Physical Therapist Asst 5	4
10-809-195	Economics	3
	Elective	1
	SEMESTER TOTAL	**16**

FOURTH SEMESTER
10-103-104	Computer: Applications	1
* 10-524-136	Health Care Systems	1
* 10-524-145	Clinical Problems 2	1
* 10-524-147	PTA Fieldwork-2A	3
* 10-524-148	PTA Fieldwork-2B	3
* 10-524-149	Ethical Decision Making	1
	Elective	5
	SEMESTER TOTAL	**15**

SUGGESTED ELECTIVES: Sports Medicine/Athletic Training (10-524-146), and Fitness Test/Prescription (10-524-151).

NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program. If the course is segmented, the successful retake must occur before continuing the sequence.

The Physical Therapist Assistant Program is fully accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE/APTA)
    American Physical Therapy Association
    1111 N. Fairfax Street, Alexandria, VA 22314
    (703)684-2782

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-524-112 PHYSICALTHERAPIST ASSISTANT-INTRODUCTION ...profession, APTA, physical therapy personnel, practice settings, accreditation, rehabilitation teams, legal practice, problem oriented medical system, SOAPnote writing, narrative note writing, terminology, abbreviations, and progress notes.

10-524-113 PTA-MEASUREMENT/TESTING ...human anatomy, and normal functional motion techniques of goniometry, manual muscle testing, analysis of individual posture and gait patterns. (Prerequisites: 10-806-187, Anatomy/ Physiology 2; 10-524-114, PTA 1; 10-524-118, PTA-Pathology Concepts)

10-524-114 PHYSICALTHERAPIST ASSISTANT 1 ...physical therapy procedures relating to activities of daily living, patient care, assistive devices, vital signs, medical asepsis, body mechanics, correct body positioning, transfers, and basic gait patterns. (Corequisites: 10-524-112, PTA Introduction; 10-524-118, Phys Therapy Pathology Concepts; 10-806-187, Anatomy/Physiology 2)

10-524-118 PTA-PATHOLOGY CONCEPTS ...medical and pathological conditions commonly encountered in physical therapy, etiology, symptomatology, treatment concepts, and medical terminology.

10-524-124 PHYSICALTHERAPIST ASSISTANT 2 ...theory, principles, and technical skills of modalities used in physical therapy: hydrotherapy, cryotherapy, therapeutic heat, ultrasound, ultraviolet, electrical stimulation, intermittent compression, traction, paraffin, biofeedback, and massage. (Prerequisite: 10-524-114, PTA 1)

10-524-132 PHYSICAL THERAPIST ASSISTANT 3 ...principles and techniques of therapeutic exercise, specific pathophysiological conditions, and related therapeutic exercise programs. (Prerequisite: 10-524-124, PTA 2)

10-524-133 PHYSICALTHERAPIST ASSISTANT-PEDIATRICS ...normal and abnormal human development, pediatric pathologies and dysfunctions, and physical therapy treatment approaches. (Prerequisites: 10-524-113, PTA-Measurement Test; 10-524-124, PTA 2)

10-524-134 CLINICALPROBLEMS 1 ...Medicare documentation, pharmacology, diversity in clinical practice, supervisory and department functions, importance of the health professional/patient relationship, writing progress notes. (Prerequisites: 10-524-132, PTA 3; 10-524-133, Pediatrics)

10-524-136 HEALTH CARE SYSTEMS ...current concepts, philosophy, and application of health care systems in the US and their relationships to the practice of physical therapy and health care financing models. (Prerequisite: 10-524-134, Clinical Problems 1)

10-524-137 PHYSICALTHERAPIST ASSISTANT 1A-FIELDWORK ...part-time clinical experience provides an opportunity in a clinical setting to apply theoretical and technical abilities that are expected of entry-level physical therapist assistants. (Prerequisites: 10-524-132, PTA 3; 10-524-133, Pediatrics)

10-524-138 PHYSICALTHERAPIST ASSISTANT 1B-FIELDWORK ...part-time clinical experience provides an opportunity in a clinical setting to apply theoretical and technical abilities that are expected of entry-level physical therapist assistants. (Prerequisite: 10-524-137, PTA1A-Fieldwork)

10-524-140 PHYSICALTHERAPIST SSISTANT 4 ...anatomy of the CNS, neuroscience of movement, psychosocial aspects of disability, PNF/NDT rehab techniques, CNS disease pathology, movement re-education, environmental assessment, rheumatic diseases, post-amputee, and cardiopulmonary rehabilitation. (Prerequisites: 10-524-132, PTA 3; 10-524-133, Pediatrics)

10-524-144 PHYSICALTHERAPIST ASSISTANT 5 ...assessment and treatment of orthopedic/musculoskeletal disorders, wound and burn care, and geriatric conditions; and psychosocial aspects of the aging process and terminal illness. (Prerequisites: 10-524-132, PTA3; 10-524-133, Pediatrics)

10-524-145 CLINICAL PROBLEMS 2 ...discussion of fieldwork situations, interviewing and job-seeking skills, preparation and presentation of an individual case study, complete a competency based, written final examination, and submit two fieldwork journals. (Prerequisites: 10-524-134, Clinical Problems 1; 10-524-138, PTA 1B-Fieldwork)

10-524-147 PHYSICAL THERAPIST ASSISTANT FIELDWORK-2A ...theoretical and technical abilities required in the clinical settings for integration and refinement of practice as a physical therapist assistant. (Prerequisite: 10-524-138, PTA 1B-Fieldwork)

10-524-148 PHYSICAL THERAPIST ASSISTANT FIELDWORK-2B ...theoretical and technical abilities required in clinical settings for integration and refinement of practice as a physical therapist assistant. (Prerequisite: 10-524-147, PTA 2A-Fieldwork)

10-524-149 ETHICALDECISION MAKING ...elements of ethics, prototypes of ethical problems, ethical situations encountered in physical therapy/health care, and the application of the six-step process of ethical decision making to PTA Fieldwork experiences.

Descriptions of courses not found on this page can be found in the back of the catalog.

Police Science
Program Code 105041

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counsel, (920) 498-5733. Course information (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Police Science students study the law enforcement field plus physical and behavioral sciences to meet the demands of the police profession, including criminal investigation, traffic law, patrol procedures, and scientific crime laboratory.

Wisconsin Firearms Law (s.s.941.29, possession of a firearm) requires a completed criminal background check in order to successfully complete course number, 10-504-177, Firearms Training. Based upon results of the criminal background check, a student may be denied enrollment in this course.

Graduates of the Police Science Program
will be able to:
• Qualify for entry level positions in protective services.
• Write reports.
• Apply courtroom testimony techniques.
• Demonstrate knowledge of laws and principles of arrest, search, and seizure.
• Demonstrate understanding of relevant state statutes.
• Interpret selected theories of criminal behavior.
• Describe the structure and procedures of the court system.
• Describe the structure and procedures of the police organization.
• Describe the structure and procedures of corrections.
• Describe the structure and procedures of the juvenile system.
• Investigate an accident.
• Interview suspects and witnesses.
• Process a crime scene.
• Apply investigative techniques.
• Contrast the various police community relations programs.
• Make appropriate judgments on risk and other factors of police situations.
• Describe various patrol tactics.
• Contrast major social institutions within American society.
• Demonstrate effective communication skills.
• Apply basic math skills.
• Demonstrate basic computer skills.
• STUDENTS SEEKING CERTIFICATION CAN ALSO: Operate vehicles in emergency situations. Demonstrate arrest, search, and seizure.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• High school diploma or equivalent
• Good writing and communication skills
• Strong organizational skills

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Police Officer, Deputy Sheriff, DNR Officer, State Trooper, Military Law Enforcement Officer, Private Investigator, Security Guard, or Correctional Officer.

POLICE OFFICER: performs general traffic and law enforcement duties at the municipal level.

DEPUTY SHERIFF: performs general traffic and law enforcement duties, jailer, and telecommunications responsibilities at the county level.

DNR OFFICER: enforces fish, game, forest, and environmental laws at the state level.

STATE TROOPER: performs traffic and law enforcement duties at the state level.

MILITARY LAW ENFORCEMENT OFFICER: performs criminal investigations, is responsible for traffic assignments, patrol, and general law enforcement duties in any branch of the military service at installations, forts, and bases.

PRIVATE INVESTIGATOR: conducts criminal and non-criminal investigations for private businesses and industry.

SECURITY GUARD: patrols and investigates for retail business and private industrial plants.

CORRECTIONAL OFFICER: is assigned to security and general duties in a correctional institution.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Police Administrator
• Chief Deputy
• State Agent
• Federal Agent

A student must successfully complete 15 credits of specific courses within the program before being eligible to take the following certification requirement course: Defensive & Arrest Tactics (10-504-175).

A student must successfully complete 30 credits of specific courses within the program before being eligible to take the following certification requirement courses: Firearms (10-504-177) and EVOC/First Responder (10-504-174).

CURRICULUM

The Police Science Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-106-145	Keyboarding	1
10-504-111	Police Org/Admin	3
10-504-112	Police Patrol Procedures	3
10-504-116	Criminal Justice-Intro	3
10-801-196	Oral/Interpers Communication	3
10-804-152	Math-Protective Services	3
	SEMESTER TOTAL	16

SECOND SEMESTER

10-103-102	Microsoft Off-Word/Access	2
10-504-140	Criminal Investigation	3
10-504-170	Juvenile Del. Abuse & Neglect	3
10-801-195	Communication-Written	3
10-801-198	Speech	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	17

THIRD SEMESTER

10-504-120	Criminal Law	3
10-504-131	Criminal Justice Interviews	3
10-504-132	Courts/Jurisdiction	3
10-801-170	Writing-Protective Services	2
10-806-151	Science-Police	3
	Elective	3
	SEMESTER TOTAL	17

FOURTH SEMESTER

10-504-121	Law/Control-Traffic	3
10-504-142	Arrest/Search/Seizure	3
10-504-143	Crime Lab-Scientific	3
10-504-144	Police-Community Rel	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	18

SUGGESTED ELECTIVES: Narcotics and Vice Investigation (10-504-151), Juvenile Delinquency and Youth Crime (10-504-154), Security-Retail/Industrial (10-504-150), Telecommunicator-Public Safety (47-555-410), and Law Enforcement Internship (10-504-176).

This program is fully eligible for financial aid.

All Corrections Science core courses are also recommended electives. Electives required for State certification are: 1) EVOC Driving/First Responder Medical Training (10-504-174), 2) Defense & Arrest Tactics (DAAT) Training (10-504-175), and 3) Firearms Training (10-504-177).

NOTE: A Department of Justice, Law Enforcement Standards Board directive requires that a successful, negative drug test be completed prior to the first enrollment in any of the series of courses necessary for Law Enforcement Officer Certification. Those courses are: 1) EVOC/First Responders (10-504-174), 2) Defense & Arrest Tactics Training (10-504-175), and 3) Firearm Training (10-504-177).

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-504-111 POLICE ORGANIZATION/ ADMINISTRATION ...structure of police departments, policies, procedures, behaviors, tasks, and goals; officer's role, ethics, discretion, and decision making in a democratic society; administrative concepts of leadership, management, and organizational principles.

10-504-112 POLICE PATROLPROCEDURES ...types of patrol and philosophy, concepts, and functions; types of calls and procedures; information gathering and reporting; patrol responsibility at crime scenes; courtroom procedures; and community relations.

10-504-116 CRIMINAL JUSTICE-INTRODUCTION ...criminal justice, crime picture, criminal law, theories of crime, history of policing, police management, legal aspects, courts, corrections, correction facilities.

10-504-120 CRIMINALLAW ...criminal law characteristics; terminology, history, principles, and philosophy of criminal law; use of the Wisconsin Statute Book; and examination of selected criminal offenses and identifying elements.

10-504-121 LAW/CONTROL-TRAFFIC ...fundamentals of evaluating the traffic law; process of issuing traffic citations and investigating and completing traffic accident reports; the process for safe traffic stops: low and high risk.

10-504-131 CRIMINALJUSTICE INTERVIEWS ...process of criminal justice interviewing using basic skills model; use of nonverbal and verbal communication; security admissible confessions that preserve indiviual's constitutional rights; ethics in criminal justice interviewing.

10-504-132 COURTS/JURISDICTIONS ...development of the American judicial system, the Federal and Wisconsin court structure, Wisconsin judicial rules and procedures from complaint to sentencing as they impact police or correctional officers.

10-504-140 CRIMINALINVESTIGATION ...principles of criminal investigation; focus on techniques of an investigation from the preliminary investigation interview, evidence procedures, and specific crime investigation.

10-504-142 ARREST/SEARCH/SEIZURE ...arrest and search and seizure of persons, places, and things with or without warrant; cause and procedure to obtain and execute warrants; exclusionary rule and effects of illegal actions.

10-504-143 CRIME LABORATORY-SCIENTIFIC ...processing of crime scenes and use of forensic science in criminal investigations; emphasis on collection, preservation, and court presentation of fingerprint, firearm, impression, trace, body fluid, and document evidence. (Prerequisites: 10-504-140, Criminal Investigation; 10-806-151, Science-Police Tech)

10-504-144 POLICE-COMMUNITY RELATIONS ...history of community policing, community, police, problem-solving policing, interpersonal skills, diversity, citizens with disabilities, elderly, youth, gangs, victims/witnesses, media, and community police programs.

10-504-170JUVENILE DELINQUENCY, ABUSE & NEGLECT ...as it relates to the field officer and the application of the law as it relates to juveniles in these situations.

Power Engineering and Boiler Operator Program Code 304281

TECHNICAL DIPLOMA - TWO YEARS PART-TIME

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Power Engineering and Boiler Operator prepares students to manage, operate, and control low and high-pressure boilers and auxiliary systems in factories, plants, and buildings.

Graduates of the Power Engineering and Boiler Operator Program will be able to:
• Define industry safety standards and concepts.
• Explain operation of power engineering equipment.
• Complete the (NIULPE) National Institute for Uniform Licensing of Power Engineering
• Describe boiler operation effects on emission.
• Describe water treatment fundamentals related to power engineering equipment.
• Describe power engineering related to control fundamentals.
• Recognize power engineering related equipment type and terminology.
• Identify power engineering firing methods for different fuel types.
• Apply natural science fundamentals to power engineering industry.
• Relate electricity basics and gem principles to power engineering.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within this program has an average level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Power Engineer/Boiler Operator, Boiler Service Technician, Boiler Installer, or Boiler Chemical Sales Representative.

POWER ENGINEER/BOILER OPERATOR: controls the operation of a boiler by reading gauges and varying fuel and water inputs.

BOILER SERVICE TECHNICIAN: services and repairs valves, fittings, and boiler tubes that are leaking or malfunctioning.

BOILER INSTALLER: installs boilers, piping, controls, and auxiliary equipment.

BOILER CHEMICAL SALES REPRESENTATIVE: tests boiler water for chemical content and recommends additives to correct the water chemical content.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Boiler Fuel Consultant
• Boiler Inspector
• Field Engineer
• Power Plant Supervisor

CURRICULUM

The Power Engineering and Boiler Operator Technical Diploma is a two-year, part-time program. Upon graduation, a student will have completed 14 credits.

Course No.	Description	Credits
30-196-348	Power House-Supervision	1
30-403-338	Power House-Blueprint Rdg	1
30-413-345	Power House-Control Sys	1
30-413-347	Power House-Electric Sys	2
30-428-331	Power Eng 1-3rd Class	1
30-428-332	Power Eng 2-3rd Class	1
30-428-333	Power Eng 3-3rd Class	1
30-428-337	Power House-Economics	1
30-428-341	Power Eng 1-4th Class	1
30-428-342	Power Eng 2-4th Class	1
30-428-343	Power Eng 3-4th Class	1
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**14**

Note: A two-year diploma completion schedule is only possible if adequate course enrollment is attained.

This program is not eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-403-338 POWER HOUSE-BLUEPRINT READING ...footings and foundations, floor plans, elevations, below-grade piping, above-grade piping, isometric piping diagrams, schedules and details, electrical floor plans, ventilating, and air conditioning.

30-413-345 POWER HOUSE-CONTROL SYSTEMS ...boiler controls, ignition systems, analog logic symbols, burner management sequencing, flame rod and optical systems, boiler start-up/shut down, problem solving and troubleshooting techniques.

30-413-347 POWER HOUSE-ELECTRICAL SYSTEMS ...principles of electricity, tools required to troubleshoot, safety control, low-volt systems, utility provided power, troubleshooting power systems, motors and controller, wiring methods, transformers, and testing equipment.

30-428-331 POWER ENGINEER 1-3RD CLASS ...basic information regarding the principles and operational techniques associated with power and heating boilers. The course will prepare the student to take the NIULPE 3rd Class exam.

30-428-332 POWER ENGINEER 2-3RD CLASS ...basic information regarding the principles and operational techniques associated with power and heating boilers. The course will prepare the student to take the NIULPE 3rd Class exam.

30-428-333 POWER ENGINEER 3-3RD CLASS ...basic information regarding the principles and operational techniques associated with power and heating boilers. The course will prepare the student to take the NIULPE 3rd Class exam.

30-428-337 POWER HOUSE-ECONOMICS ...guide student in combining newly learned principles with available reference material to determine basic powerhouse economics.

30-428-341 POWER ENGINEER 1-4TH CLASS ...types of boilers and construction, heating boilers, heating accessories and systems, steam boiler fittings, boiler parts and construction, instrumentation and controls, combustion, and boiler firing.

30-428-342 POWER ENGINEER 2-4TH CLASS ...boiler operation and maintenance, power plant pumps, refrigeration, air compression, and types of plants.

30-428-343 POWER ENGINEER 3-4TH CLASS ...lubrication, steam engines, steam turbines, internal combustion engines, gas turbines, feedwater treatment, electricity, and piping and piping fittings.

Practical Nursing

Program Code 315101

TECHNICAL DIPLOMA - TWO SEMESTERS PLUS ONE SUMMER

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5543. Information in Marinette: (715) 735-9361.

Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Practical Nursing graduates work in hospitals, nursing homes, clinics, community health agencies, and private homes. They give bedside care to patients whose conditions are relatively stable and assist the Registered Nurse or doctor in the care of the acutely ill person. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the program will be able to:
• Obtain employment as a practical nurse.
• Pass the NCLEX-PN.
• At completion of program, 100% participate in assisting role of the nursing process as demonstrated by gathering patient data, etc.
• Demonstrate professional behaviors expected in the workplace.
• Become an active member of their profession.

The Practical Nursing program is accredited by:
> Wisconsin Board of Nursing
> Dept. of Regulation & Licensing
> 1400 East Washington St.
> P.O. Box 8935
> Madison, WI 53708-8935
> (608)266-2112

A student takes five basic subjects during the first semester to prepare for clinical practice in hospitals and nursing homes. During the following semester and summer session, a student experiences medical nursing, surgical nursing, care of the psychiatric patient, care of children, and care of parents and newborns.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• High school diploma or equivalent
• 12th grade reading level
• A score of 80% on math test - math test includes general math, percentages, proportions, and decimals
• An interview/orientation
• A medical examination form satisfactorily completed within three months before entering the program
• All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Licensed Practical Nurse (LPN) or a Health Insurance Claims Approver.

LICENSED PRACTICALNURSE: administers care to individuals whose condition is relatively stable; administers care to the acutely ill under the direct supervision of an RN or MD; teaches basic hygiene, nutrition, and aspects of good health; administers first aid; and assists with health assessment and basic health teaching in a variety of settings under the supervision of an RN or MD.

HEALTH INSURANCE CLAIMS APPROVER: processes insurance claims on a computer terminal.

Graduation requirements include completion of an approved first aid course.

Graduates of the program are eligible to take the Wisconsin State Board Examination for licensure as a Licensed Practical Nurse (LPN).

Individuals with criminal records may be ineligible for licensure.

Individuals with abuse records may be ineligible for employment in nursing homes.

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM

The Practical Nursing Technical Diploma is a one-year, one-summer, three semester program. Upon graduation, a student will have completed 36 credits.

SUMMER SEMESTER

Course No.	Description	Credits
* 31-510-327	Nursing-Adult 2	6
* 31-510-329	Personal/Voc Issues 2	1
	SEMESTER TOTAL	**7**

FIRSTSEMESTER

* 31-510-325	Nutrition-Fam Growth/Dev	2
* 31-510-328	Personal/Voc Issues 1	1
* 31-510-330	Nursing-Basic	4
* 31-510-331	Nursing-Extended Care	5
31-801-386	Communicating-Interpers	1
* 31-806-312	Anatomy/Struct-Funct	2
	SEMESTER TOTAL	**15**

SECOND SEMESTER

* 31-510-311	Nursing-Children	3
* 31-510-324	Nursing-Parent/Newborn	3
* 31-510-326	Nursing-Mental Health	3
* 31-510-332	Nursing-Adult 1	5
	SEMESTER TOTAL	**14**

* NOTE: A minimum of a C grade is required for all courses marked with an asterisk (31-806; 31-510).

The following courses may be taken prior to entering the program: Anatomy Structure/ Function, *#31-806-312. Personal/Vocational Issues 1, *#31-510-328. Nutrition-Family Growth/ Development,*#31-510-325. Communication-Interpersonal, *#31-801-386. * Fall offerings only.

It is suggested that a course in Medical Terminology be taken prior to entering the program, #10-510-165 or #31-509-360.

It is also suggested that the NWTC Skills Center be used for developing study skills, test taking skills, reading, and math skills, prior to entering the program.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-510-311 NURSING-CHILDREN
...communication; play, safety, assessment procedures; medications, special needs of the newborn/infant, toddler, preschooler, school age, adolescent; disease prevention; and childcare agencies. (Prerequisite: 31-510-332, Nursing-Adult 1)

31-510-324 NURSING-PARENT/NEWBORN
...postpartum care, newborn care, female/male reproductive systems, prenatal care, fetal growth/development, labor/delivery, family-centered maternal/newborn care, adolescent pregnancy, cultural diversity, and family planning. (Prerequisite: 31-510-332, Nursing-Adult 1)

31-510-325 NUTRITION-FAMILY GROWTH/DEVELOPMENT ...the family unit; nutrition, metabolism, and nutrients; nutritional needs during pregnancy; and developmental process: newborn, infant, toddler, preschool child, schoolage child, preadolescent, adolescent, young adult, and adult.

31-510-326 NURSING-MENTALHEALTH
...emotional and social needs, reaction to stress, nurse/patient relationships, behaviors, nursing interventions and treatment, community resources, and theory and clinical practice. (Prerequisite: 31-510-332, Nursing-Adult 1)

31-510-327 NURSING-ADULT 2 ...Practical Nurse's role assisting in evaluating care; focus on mobility, hematologic, nutritional, elimination, neurologic, and sexuality needs of adults. (Prerequisite: 31-510-332, Nursing-Adult 1)

31-510-328 PERSONAL/VOCATIONALISSUES 1
...nursing history, interpersonal relationships, employee/employer relationships, nursing ethics, Nurse Practice Act, LPN legal limitations, liability, nursing organizations, and community health organizations.

31-510-329 PERSONAL/VOCATIONALISSUES 2
...finding a job, legal and ethical aspects, teamwork, leadership, health care delivery, career mobility, vocational organization, cultural and spiritual differences, and NCLEX-LPN. (Prerequisite: 31-510-332, Nursing-Adult 1)

31-510-330 NURSING-BASIC ...orientation to nursing; patient environment; body mechanics; observing, recording and reporting; patient care; therapeutic Rx; and principles of asepsis. (Prerequisite: Accepted into Practical Nursing)

31-510-331 NURSING-EXTENDED CARE
...assessment of needs and care of long-term patients, the aging process, role changes, societal views, safety and rehabilitation of chronically ill, administration of medicine, theory and clinical experience. (Prerequisite: 31-510-330, Nursing-Basic; Corequisite: 31-806-312, Anatomy Structure/Function)

31-510-332 NURSING-ADULT 1 ...the Practical Nurse's role in identifying the impact of illness on the adult as well as assisting with meeting the pre and post operative comfort, circulatory, respiratory, and urinary needs of adults with an emphasis on planning and implementation. (Prerequisite: 31-510-331, Nursing-Extended Care)

Descriptions of courses not found on this page can be found in the back of the catalog.

NORTHEAST WISCONSIN **145** TECHNICAL COLLEGE

Press Technician-Printing

Program Code 312041

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Press Technician-Printing program trains students in pre-press operations, offset presswork, lithographic and flexographic reproduction, film assembly and finishing processes, and electronic publishing.

Graduates of this program will be able to:
- Analyze jobs for operations and materials costs.
- Perform electronic pre-press operations.
- Lay out jobs and generate film for production.
- Create press proofs.
- Set up and operate offset and flexographic printing presses.
- Maintain a safe work environment.
- Create machine operation procedures.
- Pre-flight jobs for various printing processes.
- Perform finishing operations on printed jobs.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Math skills
- Communication skills.

READING LEVEL

Textbook readability within this program has an average level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as Bindery/Finishing Operator, Estimator/Production Planner, Plate Mounter, Offset/Flexographic Press Assistant, Offset/Flexographic Press Operator.

BINDERY/FINISHING OPERATOR: operates machines that cut, fold, collate, staple, stitch, trim, and bind pages.

ESTIMATOR/PRODUCTION PLANNER: prepares price quotations, estimates for printing, and preliminary production schedules.

PLATE MOUNTER: makes and mounts plates specific to printing processes and presses.

OFFSET/FLEXOGRAPHIC PRESS ASSISTANT: prepares press for run; runs press proof; adjusts plate, paper feed, tension of paper; ink and water flow.

OFFSET/FLEXOGRAPHIC PRESS OPERATOR: sets up, prepares and operates presses; loads paper, installs printing plates, adjusts guides and control for machine operations.

With additional education and/or work experience, a graduate may find other opportunities for employment.
- Graphic Designer
- Pre-Press Technician
- Print Production Supervisor/Manager
- Estimator
- Pre-Flight Specialist

CURRICULUM

The Press Technician-Printing Technical Diploma is a one-year, two-semester program. Upon graduation, students will have completed 31 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-111-103	Macintosh-Intro	1
10-111-111	Marketing 1-Visual Design	3
10-111-120	Marketing Presentation	3
10-204-110	Printing-Introduction	3
10-204-111	Printing Operations/Press	3
10-801-195	Communication-Written	3
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
10-111-125	Graphic Reproduction Tech	3
10-111-161	Macintosh-Publish/Illus	3
10-204-120	Printing/Operations-Adv	3
10-204-122	Production Mgmt/Logistics	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**15**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-111-103 MACINTOSH-INTRODUCTION ...computer operating system, basic computer hardware, and basic computer software.

10-111-111 MARKETING 1-VISUALDESIGN ...design and drawing for graphic reproduction, design trends, and applications; brochure, advertising, and corporate I.D. package created using basic design process of thumbnails, rough, and comprehensive layout.

10-111-120 MARKETING PRESENTATION ...develop page layout concepts utilizing document files, tools, guides, objects and shapes, text, colors, style sheets, images, master pages; manage output for printing; and apply copy elements.

10-111-125 GRAPHIC REPRODUCTION TECHNIQUES ...basic process of reproducing images using offset lithography including electronic imaging, film stripping, plates, press operation, estimating, and production planning.

10-111-161 MACINTOSH-PUBLISHING/ILLUSTRATING ...create and paint basic shapes, draw, transform objects, work with type, blend shapes and colors, work with layers, special effects, and color separations. An introduction to manipulating vector based images.

10-204-110 PRINTING-INTRODUCTION ...printing processes, career traits, electronic publishing, plate making, press operation, printing plates, flexographic press controls, offset press controls, paper cutters, support equipment, job seeking skills, professional portfolios, and job logs.

10-204-111 PRINTING OPERATIONS/PRESS SET-UP ...press equipment, processors, inks, print quality, job tickets, standard operating procedures, densitometers, printing problems, and trapping situations.

10-204-120 PRINTING/OPERATIONS-ADVANCED ...detailed overview of the flexographic printing and offset lithographic printing processes; learners integrate classroom press operating experiences with interactions with industry.

10-204-122 PRODUCTION MANAGEMENT/ PRINTING LOGISTICS ...printing management process, related management skills, leadership skills, quality assessment techniques, and production schedules.

Programmer/Analyst (CIS) Program Code 101071

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Programmer/Analyst prepares students for employment as business applications programmers. Programmers are responsible for writing computer programs to solve business problems.

Graduates of this program will be able to:

- Make oral presentations.
- Develop programs using COBOL.
- Develop programs using RPG.
- Develop applications using Oracle.
- Develop batch programs to generate business reports.
- Develop interactive programs to maintain files.
- Maintain existing programs in Cobol, RPG, and Oracle.
- Design a normalized database.
- Use development tools.
- Manage small projects.
- Develop control language programs.
- Develop client/server applications with a graphical user interface.
- Work within a team environment.
- Verify numerical output of computer programs.
- Use computer terminology.
- Apply mathematical algorithms and data structures.
- Apply logical and statistical techniques to develop test suites.
- Function in a work environment.
- Write business correspondence.
- Write technical reports.
- Use communications technology.
- Use the System Development Life Cycle (S.D.L.C.).
- Use core accounting terminology.
- Understand business functions and process flow.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- One year of high school algebra or equivalent
- Ability to use computer keyboard and mouse

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math and algebra skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Applications Programmer/Analyst.

APPLICATIONS PROGRAMMER/ANALYST: gathers facts, analyzes them to determine the problem, writes specifications, designs a solution, and develops the program to implement the solution on the computer.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Database Administrator
- Data Processing Department Manager
- Systems Analyst
- Systems Programmer
- Senior Programmer/Analyst
- Database Analyst
- Applications Project Manager

NOTE: To train entry-level programmers in two years requires a rigorous academic schedule and a strong commitment by the student and by the instructors. The schedule has been carefully designed so that one semester prepares a student for the next semester. Deviation from this schedule can hinder progress and adversely affect the chances of successful completion.

A prospective student should consider taking the Programmer Orientation course (47-107-423). This is a short, non-credit course designed to give the student a clear understanding of the course work, the time commitment required, and the fundamental skills needed to be successful in the first semester. To help a student make an intelligent decision about the future and prepare for the rigors of the program, a section of Programmer Orientation is strongly encouraged.

CURRICULUM

The Programmer/Analyst Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 68 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-101-110	Accounting 1	4
10-107-110	Computer: Program 1-COBOL	4
10-107-112	Computer: Concept/Appl	3
10-801-195	Communication-Written	3
10-804-151	Math-Data Proc Logic	3
	SEMESTER TOTAL	**17**

SECOND SEMESTER

10-107-120	Computer: Program 2-COBOL	4
10-107-123	Computer: Database Concepts	4
10-801-196	Oral/Interpers Communication	3
10-801-197	Reporting-Technical	3
10-804-161	Math-Data Proc Alg/Stat	3
	SEMESTER TOTAL	**17**

THIRD SEMESTER

10-107-130	Computer: Program 3-RPG	4
10-107-131	Computer: Systems Analy/Des	4
10-107-133	Computer: Control Language	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**17**

FOURTH SEMESTER

10-107-140	Computer: Program 4-SQL	3
10-107-141	Computer: Adv Prog Proc	3
10-107-142	Computer: Data Proc Intern	2
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**17**

SUGGESTED ELECTIVES: RPG Programming-Advanced (10-107-143), Micro Programming in "C" (10-107-173), Computer: Javascript-Intro (10-107-103), Computer: Java-Intro (10-107-101), Computer: Programming-Intro (10-107-100).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-107-110 COMPUTER: PROGRAMMING 1-COBOL ...programming and problem solving using the COBOLlanguage (ANSI-85), design and develop COBOL report programs using structured techniques including table handling. (Corequisites: 10-107-112, Computer:Concepts/Applications; 10-804-151, Math-Data Proc Logic)

10-107-112 COMPUTER: CONCEPTS/ APPLICATIONS ...hardware components of a computer system, computer software, file and database processing and management, communications, management information systems, the information systems life cycle, computer career opportunities, and computer trends and issues.

10-107-120 COMPUTER: PROGRAMMING 2-COBOL ...advanced concepts and techniques using COBOL, problem definition, job streams, table processing, control breaks, sequential/random access file processing, interactive file update functions, data verification, on-line programming techniques. (Prerequisite: 10-107-110, Computer:Programming 1-COBOL)

10-107-123 COMPUTER: DATABASE CONCEPTS ...data and its function; traditional, hierarchical, network, relational data models; relational algebra, logical files, structured query language, normalization, database constraint; database management systems (DBMS) functions and applications. (Prerequisites: 10-107-110, Computer:Programming 1-COBOL; 10-107-112, Computer:Concepts/Applications)

10-107-130 COMPUTER: PROGRAMMING 3-RPG ...batch report and on-line programming techniques using the RPG 400 language, system utilities, applications systems, file maintenance techniques, subprograms, and program maintenance skills. (Prerequisite: 10-107-120 Computer: Programming 2-COBOL)

10-107-131 COMPUTER: SYSTEMS ANALYSIS/ DESIGN ...system development methodologies, analysis and design tools, the analysis process, overview of design considerations for user interface, traditional and database methods, testing methods, and documentation requirements. (Prerequisites: 10-107-120, Computer:Programming 2-COBOL; 10-107-123, Computer:Database Concepts)

10-107-133 COMPUTER: CONTROL LANGUAGE ...basic functions of system/job control language; development of CLprograms to utilize variables, control program flow, display menus/messages, handle error conditions, and access databases. (Prerequisite: 10-107-120, Computer: Programming 2-COBOL)

10-107-140 COMPUTER: PROGRAMMING 4-SQL ...application system development using a fourth generation language (SQL), table creation/ maintenance, screen designing, interactive program development, report programming/generating, menu designing/programming, and trigger processing. Requires three semesters of programming including COBOL. (Prerequisites: 10-107-130, Computer:Programming 3-RPG; 10-107-131, Computer:Systems Analysis/Design)

10-107-141 COMPUTER: ADVANCED PROGRAMMING PROCEDURES ... principles of database systems and complex application systems, procedural and non-procedural languages used to develop projects. Requires three semesters of programming including COBOL. (Prerequisites: 10-107-130, Computer:Programming 3-RPG; 10-107-131, Computer Systems Analysis/Design)

10-107-142 COMPUTER: DATA PROCESSING INTERNSHIP ...scheduling and management in a business environment through an individual project assignment. Course should be taken during the last semester.

Descriptions of courses not found on this page can be found in the back of the catalog.

Quality Assurance Technician

Program Code 106232

ASSOCIATE DEGREE - FIVE YEARS, PART-TIME WITH SHORTER OPTIONS AVAILABLE

Offered at the Green Bay and Marinette campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361.
Toll free: (800) 422-NWTC.

MISSION STATEMENT OF THE QUALITY ASSURANCE TECHNICIAN PROGRAM

Quality Assurance Technician program provides a learning environment for individuals who promote continuous improvement and customer satisfaction through the application of Quality concepts, principles, and methodologies using the latest scientific approaches.

Graduates of the Quality Assurance Technician Program will be able to:

- Adopt a philosophy of cooperation and respect for all coworkers.
- Identify elements of good customer relations.
- Apply math skills.
- Use Quality theories.
- Describe the strategic and tactical operations of a business.
- Evaluate design quality.
- Use problem solving tools.
- Integrate corrective action into a process.
- Function as a team member.
- Use supplier relations techniques.
- Communicate effectively.
- Use computer for data collection, data analysis, and word processing.
- Demonstrate leadership skills.
- Identify manufacturing processes.
- Write Q.A. policies and procedures.
- Write Q.A. technical reports.
- Conduct audits.
- Validate quality improvements.
- Apply statistical methods.
- Monitor manufacturing quality.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent (Equivalency may be established through GED testing or other tests.)
- High school background in algebra, science, industrial education, and/or service related classes
- High school algebra or equivalent

READING LEVEL

Textbook readability within this program has an average level of 14th grade.

MATH LEVEL

High school algebra or equivalent.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Quality Technician. This program provides the educational foundation to become an ASQC certified Quality Technician, Quality Auditor, Quality Manager, or Mechanical Inspector; and for ASNT TC1ACertification in non-destructive examinations.

QUALITYTECHNICIAN: uses codes, specifications, procedures, teamwork, and problem solving to insure customer satisfaction and quality through process control, quality improvement techniques, vendor relations, auditing, reliability, and report writing.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Senior Quality Technician
- Quality Control Supervisor
- Quality Assurance Manager
- ASQC Certified Quality Engineer

NOTE: Courses may be substituted for different program emphasis. For a process or service industry emphasis in Quality Assurance, the following course substitution is required.

PROCESS EMPHASIS

10-623-122 Metrology/Blueprint Rdg replace with 623-124 Quality-Sensory Evaluation

10-623-120 NDT Principles replace with 623-135 Quality Process Appl

10-806-131 Materials Science replace with 806-150 Science 1—Tech

10-623-142 NDT Application replace with 623-147 Quality Issues

SERVICE EMPHASIS

10-623-112 Manufacturing Technologies replace with 104-110 Marketing Principles

10-623-122 Metrology/Blueprint Rdg replace with 104-198 Market Research

10-623-120 NDT Principles replace with 623-124 Sensory Evaluation

10-806-131 Materials Science replace with 102-158 Business—Intro

10-623-142 NDT Application replace with 623-147 Quality Issues

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CURRICULUM

The Quality Assurance Technician Associate Degree is offered on a late-afternoon/evening basis and is a five-year, ten-semester program, with options to complete in a shorter period of time. Upon graduation, a student will have completed 66 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-623-110	Quality Concepts	3
10-804-130	Algebra/Trigonometry	3
	SEMESTER TOTAL	6

SECOND SEMESTER

10-623-112	Manufacturing Tech OR	3
10-104-110	Marketing Principles	3
10-623-113	Quality Documentation	3
	SEMESTER TOTAL	6

THIRD SEMESTER

10-623-115	Cust/Vendor Rel/Audits	3
10-804-131	Algebra-Inter	3
	SEMESTER TOTAL	6

FOURTH SEMESTER

10-103-103	Micro Basics MS Office 1	3
10-801-196	Oral/Interpers Communication	3
10-806-131	Materials Science OR	3
10-102-158	Business-Intro OR	3
10-806-150	Physics 1-Technical	3
	SEMESTER TOTAL	9

FIFTH SEMESTER

10-623-144	Statistical Proc Control	3
10-809-199	Psychology-Human Rel	3
	SEMESTER TOTAL	6

SIXTH SEMESTER

10-196-110	Supervision Principles	3
10-623-122	Metrology/Blueprint Rdg OR	3
10-104-198	Market Research OR	3
10-623-124	Quality-Sensory Eval	3
10-801-195	Communication-Written	3
	SEMESTER TOTAL	9

SEVENTH SEMESTER

10-623-133	Quality Engineering	3
10-801-197	Reporting-Technical	3
	SEMESTER TOTAL	6

EIGHTH SEMESTER

10-623-120	Nondestructve Test Prin OR	3
10-104-191	Customer Service Mgmt OR	3
10-623-135	Quality Process Appl	3
	Elective	3
	SEMESTER TOTAL	6

NINTH SEMESTER

10-623-142	Nondestructve Test-Appl OR	3
10-623-147	Quality Issues	3
10-809-195	Economics	3
	SEMESTER TOTAL	6

TENTH SEMESTER

10-623-145	Quality Problem Solving	3
	Elective	3
	SEMESTER TOTAL	6

SUGGESTED ELECTIVES: Quality Assurance Internship (10-623-197), Geometry-Analytic (10-804-132).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-104-110 MARKETING PRINCIPLES
...marketing management, market segmentation, market research, consumer behavior, product decisions and management, distribution, pricing, promotional decisions, and international marketing strategy planning.

10-104-191 CUSTOMER SERVICE MANAGEMENT ...develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, set complaint policies, and develop communication techniques to handle complaining customers.

10-104-198 MARKET RESEARCH ...identifying problems and formulating problem hypothesis, situation analysis, informal investigation and secondary research, project objectives, primary research, sampling, questionnaires, interviews, processing the written report, and conclusions and data analysis.

10-196-110 SUPERVISION PRINCIPLES
...supervisor's role, planning, problem solving, organizing/staffing/training/retraining employees, motivation, evaluating performance, challenging employees, teamwork, controlling work, discipline, productivity, quality, and diversity.

10-623-110 QUALITY CONCEPTS ...the quality system in industry including organization structure, culture, cost of quality, process control, continuous improvement, vendor relations, quality manual, and current quality trends.

10-623-112 MANUFACTURING TECHNOLOGY
...manufacturing processes and techniques used in a variety of industries including machine tool, paper, and food processing; principles of industrial engineering.

10-623-113 QUALITY DOCUMENTATION ...ISO 9000, documentation, writing sampling plans, procedure writing, and customer needs evaluation.

10-623-115 CUSTOMER/VENDOR RELATIONS/ AUDITS ...the quality department's role in customer relations, vendor certification programs, and performing internal and vendor audits.

10-623-120 NONDESTRUCTIVE TESTING PRINCIPLES ...concepts of nondestructive testing; types of tests; procedures; and characteristics of materials for penetrant, magnetic particle, and ultrasonic testing.

10-623-122 METROLOGY/BLUEPRINT READING
...blueprints, views, tolerances, geometric tolerancing and use of metrology equipment: micrometers, calipers, gauges, coordinate measuring machines, and optic comparators to verify specification conformance.

10-623-124 QUALITY-SENSORY EVALUATION
...methods for measuring product attributes and understanding customer perceptions and needs.

10-623-133 QUALITYENGINEERING ...planning for quality, quality of design, reliability, manufacture planning, and design of experiments.

10-623-135 QUALITY PROCESS APPLICATIONS
...process industry fundamentals including an introduction to chemical reactions, reaction kinetics, and heat and mass balances.

10-623-142 NONDESTRUCTIVE TEST-APPLICATION/PRACTICE ...applying the nondestructive testing method used in the student's particular work environment; emphasis on eddy current and radiographic testing along with writing test procedures for any nondestructive testing method.

10-623-144 STATISTICAL PROCESS CONTROL
...basic statistics, statistical inference, normal distribution, simple probability, variable and attribute control charts, and process capability.

10-623-145 QUALITY PROBLEM SOLVING
...working in teams, problem solving and data gathering using tools of quality, project planning tools and techniques, and practical leadership skills.

10-623-147 QUALITY ISSUES ...special issues in implementing quality in process and service industries.

Descriptions of courses not found on this page can be found in the back of the catalog.

Respiratory Care Practitioner Program Code 105151

ASSOCIATE DEGREE - TWO YEARS PLUS ONE SUMMER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Respiratory Care Practitioner trains students in the diagnosis, treatment, and rehabilitation of patients with chronic and acute diseases of the heart and lungs. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Respiratory Care Practitioner Program will be able to:
- Be employed in the field of Respiratory Care.
- Initiate and conduct prescribed therapeutic procedures.
- Modify prescribed therapeutic procedures.
- Demonstrate technical competence.
- Demonstrate a positive work attitude.
- Demonstrate competency in Physics.
- Demonstrate competence in Microbiology Theory.
- Demonstrate competence in Anatomy Physiology.
- Demonstrate competence in Cardiopulmonary/ Renal Physiology.
- Respond positively to constructive criticism.
- Demonstrate initiative.
- Demonstrate interpersonal communication skills.
- Administer quality respiratory care.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Minimum standard composite score of 20 on the ACT assessment
- High school diploma or equivalent
- High school algebra (or attain a minimum score of 80% on the NWTC Algebra examination)
- One year of biology or equivalent
- One year of chemistry or equivalent (within the last 5 years)
- One year of physics or advanced mathematics (all with grades of C or better)
- Complete an interview or orientation
- A medical examination satisfactorily completed within three months before entering the program
- All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

READING LEVEL

Materials used within this program have an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills and Accuplacer tests for algebra. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Respiratory Care Practitioner in the hospital setting as a Staff Therapist, a Pulmonary Rehabilitation Therapist, a Perinatal/ Pediatric Therapist, a Pulmonary Function Technologist/Therapist, a Sleep Disorder Center Technician, a Shift Supervisor, and a Department Manager. Outside of the hospital setting, a graduate will have the potential for employment as a Home Care Therapist and/or Manager, a Nursing Home Therapist, Respiratory Care Educator, and Medical Equipment Supplies Salesperson.

STAFF THERAPIST (hospital setting): performs all respiratory care modalities and monitors life-support systems in all areas of the hospital during a twenty-four hour period.

PULMONARY REHABILITATION THERAPIST: works in conjunction with other allied health practitioners and physicians with patients affected by chronic lung/heart disease, with a goal to improve the quality of life for these special patients. A graduate would work with a variety of age groups and physical impairments.

PERINATAL/PEDIATRIC THERAPIST: (considered a specialized area of expertise) works in a neonatal intensive care unit, stepdown unit with children and their families, as well as the physicians and nurses assigned to the same units.

PULMONARY FUNCTION TECHNOLOGIST/ THERAPIST: works in a diagnostic laboratory setting that emphasizes the testing of lung dysfunction via a variety of pulmonary tests and stress tests, and may also be required to draw arterial blood samples.

SLEEP DISORDER CENTER TECHNICIAN: (considered a specialized area of practice) performs and monitors tests designed to detect specific sleep disorders, working closely with physicians, patients, and family members.

SHIFT SUPERVISOR: a first-line management position, supervises the activities and performance of respiratory care practitioners assigned to a specific shift. Many managerial skills and duties are required in this capacity.

DEPARTMENT MANAGER: a mid-level management position, is responsible for the overall managerial duties and supervision of all departmental employees in the general hospital environment and the specialty departments.

HOME CARE THERAPIST/MANAGER: employed by a home health care agency, usually outside the hospital setting, makes visits to patients in their homes to check equipment setups, adherence to a prescribed therapy, and medication plans. The manager supervises and is responsible for all services and personnel utilized in the home health company. Traveling and working hours will vary depending upon patient location and needs.

NURSING HOME THERAPIST: (a new role for the respiratory care profession) performs and monitors the respiratory care modalities being administered to nursing home patients.

RESPIRATORY CARE EDUCATOR: works in clinical or classroom settings either as a full-time or part-time instructor for a respiratory care practitioner program, and typically requires advanced respiratory care credentials and education.

MEDICAL EQUIPMENT AND SUPPLIES SALES REPRESENTATIVE: employed by a specific medical company as a sales representative for all medical equipment/supplies offered by that company, or may specialize in an area of equipment and supplies. Salary is variable and travel can be extensive.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Electric Physiology Lab Technician
- EKG Technician
- Physician Assistant

The Respiratory Care Practitioner program is accredited by the Committee on Accreditation for Respiratory Care (CoARC)
> 1248 Harwood Road
> Bedford, TX 76021-4244
> (817)283-2835

A graduate is eligible to take the National Board for Respiratory Care Credentialing Examinations.

NOTE: A student who does not meet the above requirements should consult an NWTC counselor about ways to make up any deficiencies through testing or course work.

CURRICULUM

The Respiratory Care Practitioner Associate Degree is a two-year, one-summer, five-semester program. Upon graduation, a student will have completed 72 credits.

FIRST SEMESTER

Course No.	Description	Credits
* 10-515-111	Respiratory Care-Intro	2
10-801-196	Oral/Interpers Communication	3
* 10-806-115	Physics-Rcp	3
* 10-806-182	Anatomy/Physiology 1	3
* 10-806-194	Microbiology	3
10-809-198	Psychology-Intro	3
	SEMESTER TOTAL	17

SECOND SEMESTER

* 10-515-125	Respiratory Care Tech 1	3
* 10-515-151	Pharmacology	2
10-801-195	Communication-Written	3
* 10-806-189	Physiology-Cardio/Renal	4
10-809-196	Sociology-Intro	3
	Elective	3
	SEMESTER TOTAL	18

SUMMER SEMESTER

* 10-515-132	Respiratory Care Tech 2	3
* 10-515-139	Respiratory Care Clinical 1	2
	SEMESTER TOTAL	5

THIRD SEMESTER

* 10-515-133	Pulmonary Function	3
* 10-515-134	Cardiopulmonary Diseases	3
* 10-515-138	Ventilation-Mechanical	3
* 10-515-146	Respiratory Care Clin 2	6
	Elective	1
	SEMESTER TOTAL	16

FOURTH SEMESTER

* 10-515-143	Critical Care	3
* 10-515-147	Respiratory-Neonatal/Ped	2
* 10-515-159	Respiratory Care Clinical 3	6
10-809-195	Economics	3
	Elective	2
	SEMESTER TOTAL	16

SUGGESTED ELECTIVES: Clinical Simulation Review(10-515-162), Clinical Simulation Review 2 (10-515-163), and Computer Applications(10-804-182).

NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue or graduate from this program. If the course is segmented, the successful retake must occur before continuing the sequence.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-515-111 RESPIRATORY CARE-INTRODUCTION
...health care delivery systems, patient/practitioner education, respiratory care/services, medical terminology, patient/practitioner safety, communication skills, medical record keeping, charting methods, infection control, patient care ethics, and medical gas/cylinder safety.

10-515-125 RESPIRATORY CARE TECHNOLOGY 1 ...cardiovascular system, bedside assessment, gas exchange/transport, medical gas therapy, humidity/bland aerosol therapy, aerosol drug therapy. (Prerequisites: 10-515-111, Respiratory Care-Intro; 10-806-115, Physics-RCP)

10-515-132 RESPIRATORY CARE TECHNOLOGY 2 ...rationale and indications of incentive spirometry, chest physiotherapy, breathing exercises, non-invasive patient monitoring techniques, pulmonary rehabilitation, home-care methodologies, rationale and equipment utilized for CPAP, and manual ventilation. (Prerequisite: 10-515-125, Respiratory Care Technician 1)

10-515-133 PULMONARY FUNCTION TESTING/EVALUATION ...advanced diagnostics of cardiopulmonary disorders via complete pulmonary function testing, pulmonary stress testing, and arterial blood gas analysis and instrumentation. (Prerequisites: 10-515-132, Respiratory Care Tech 2; 10-806-115, Physics RPC)

10-515-134 CARDIOPULMONARY DISEASES
...etiology, recognition, and management of cardiopulmonary diseases; x-ray interpretation; and the application of respiratory care in the management of medical and pre/post surgical patients. (Prerequisites: 10-515-132, Respiratory Care Tech 2; 10-806-189, Physiology-Cardio/Renal)

10-515-138 VENTILATION-MECHANICAL
...principles, operation, and application of devices for ventilatory assistance and support; study of the patient-ventilator interface; artificial airways; ventilatory failure; and physiological alterations from mechanical ventilation. (Prerequisite: 10-515-146, Respiratory Care Clinical 2; Corequisite: 10-515-133, Pulmonary Function)

10-515-139 RESPIRATORY CARE CLINICAL 1
...respiratory care in a clinical environment, observation of administration of respiratory therapy modalities, and workshops to enhance skills taught in Respiratory Care-Introduction and Respiratory Care Technology 1. (Prerequisites: 10-515-125, Respiratory Care Tech 1; 10-515-151, Pharmacology)

10-515-143 CRITICAL CARE ...critically ill patient care including patient monitoring techniques and evaluation, acute and chronic respiratory failure, neuromuscular diseases, and trauma management. (Prerequisites: 10-515-139, Respiratory Care Clinical Practice 1; 10-806-189, Physiology-Cardio/Renal; 10-806-182, Anatomy/Physiology 1)

10-515-146 RESPIRATORY CARE CLINICAL 2
...minimum of 24-hours per week in clinical settings with emphasis on performance of respiratory procedures and application of equipment; limited patient care responsibilities. (Prerequisite: 10-515-139, Respiratory Care Clinical Practice 1)

10-515-147 RESPIRATORY CARE-NEONATAL/PEDIATRIC ...embryology fetal maturity, birth, assessment, neonatal abnormalities, congenital heart abnormalities, non-invasive and invasive care, croup, epiglottitis, bronchioloitis vs. asthma, Reye's Syndrome and Cystic Fibrosis. (Prerequisites: 10-515-143, Critical Care; 10-515-138, Ventilation-Mechanical)

10-515-151 PHARMACOLOGY ...drug dosages, central and peripheral nervous system, sympathomimetic bronchodilators, Xanthine bronchodilators, mucolytics, corticosteroids, antiasthmatic drugs, neuromuscular blocking agents, central nervous system depressants, respiratory stimulants, and cardiovascular agents. (Prerequisites: 10-806-182, Anatomy/Physiology 1; 10-806-189, Physiology-Cardio/Renal)

10-515-159 RESPIRATORY CARE CLINICAL 3
...administration of respiratory care to the critically ill, neonatal, and pediatric patient; ventilatory management; and evaluation skills. (Prerequisite: 10-515-146, Respiratory Care Clinical Practice 2)

Descriptions of courses not found on this page can be found in the back of the catalog.

Retail Management

Program Code 101047

ASSOCIATE DEGREE - TWO YEARS

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5435. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Retail Management program prepares students for entry-level management in the retail industry. Graduates are trained in merchandising techniques and management strategies pertaining to all facets of retailing.

Graduates of this program will be able to:

- Recommend a retail pricing plan.
- Evaluate alternative distribution strategies.
- Develop a retail product and service mix.
- Generate retail information for effective decision making.
- Apply continuous improvement strategies to solve retail problems.
- Assess emerging global trade events that impact retailing.
- Create a personal professional development plan.
- Manage resources and risks to contribute to profitability of the organization.
- Manage retailing within an enterprise.
- Apply technology to retail and retail information systems.
- Apply legal and ethical principles to personal, social, and professional behaviors.
- Develop long-term strategic retail marketing plans.
- Formulate retail selling strategies.
- Apply effective leadership skills.
- Design a retail promotion plan.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- Basic math
- Ability to use computer keyboard

READING LEVEL

Textbook readability within this program has an average reading level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as Manager Trainee, Department Manager, Assistant Store Manager, Assistant Buyer, Distributor/Planner Trainee, Market Research Assistant, Merchandiser, or Human Resource Specialist.

MANAGER TRAINEE: works within a rotation among the various departments and functions in a firm becoming familiar with all operations, and works with computer printouts.

DEPARTMENT MANAGER: supervises sales staff within the department, assigns duties, trains staff, evaluates employees' performance, supervises merchandise presentations, submits reports and analyzes inventory and stock control within a department, assists in sales when necessary, and initiates store communication.

ASSISTANT STORE MANAGER: supervises and schedules the sales staff, supervises merchandise presentations, opens and closes the store, submits reports, analyzes inventory and stock control within a department, assists in sales when necessary, and initiates store communication.

ASSISTANT BUYER: works with the merchandiser developing the line, assists in determining the merchandise to be included and the price points of merchandise, keeps clerical records for the buyer, follows up on merchandise shipments, initiates store communication, and works with computer printouts.

DISTRIBUTOR/PLANNER TRAINEE: determines the allocation of merchandise to various store units; works with computer printouts and unit control records; has contact with buyers, merchandise managers, and store personnel in a retail environment.

MARKET RESEARCH ASSISTANT: researches market conditions to determine potential sales, examines and assists in analyzing data to forecast future trends, prepares reports, and works with computer printouts.

MERCHANDISER: determines the merchandise selection in cooperation with a buyer or corporate management, responsible for the "presentation" of the merchandise in the department or store, tracks the "flow" of merchandise.

HUMAN RESOURCE SPECIALIST: analyzes retail functions and job descriptions; recruits, trains, assesses, and motivates employees.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Buyer
- Entrepreneur
- Replenishment Manager
- Store Manager

CURRICULUM

The Retail Management Associate Degree is a two-year, four-semester program. Upon graduation, a student will have completed 66 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-102-158	Business-Intro	3
10-104-106	Retail Sales Mgmt	3
10-104-190	Retail Principles	3
10-801-195	Communication-Written	3
10-801-198	Speech	3
10-804-101	Math-Business	3
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
10-103-103	Micro Basics MS Office 1	3
10-104-110	Marketing Principles	3
10-104-191	Customer Service Mgmt	3
10-104-192	Merchandise Management	3
10-196-110	Supervision Principles	3
	SEMESTER TOTAL	**15**

THIRD SEMESTER

Course No.	Description	Credits
10-104-193	Retail Operations Mgmt	3
10-196-189	Problem Solve/Team Bldg	3
10-809-195	Economics	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	SEMESTER TOTAL	**15**

FOURTH SEMESTER

Course No.	Description	Credits
10-104-135	Retail Mgmt-Survival	3
10-104-164	Retail Mgmt Internship	3
	OR	
10-104-180	Retail Mgmt Field Study	3
10-182-157	Logistics Management	3
10-196-193	Human Resource Mgmt	3
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**18**

SUGGESTED ELECTIVES: Product Information (10-104-123), Retail Trends (10-104-162), Merchandising-Visual (10-104-194), and Marketing-Apparel (10-104-197).

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-104-106 RETAILSALES MANAGEMENT ...leadership of retail industry employees in various selling and customer service activities; sales training, tracking, and analysis specifically for retail entities.

10-104-110 MARKETING PRINCIPLES ...marketing management, market segmentation, market research, consumer behavior, product decisions and management, distribution, pricing, promotional decisions, and international marketing strategy planning.

10-104-135 RETAILMANAGEMENT-SURVIVAL SKILLS ...review of current federal and state employment laws and employers' responsibilities; sources, consequences, and methods of handling stress; techniques and strategies of time management; sexual harassment; cultural/etiquette issues.

10-104-164 RETAILMANAGEMENT INTERNSHIP ...professional work environment, interviewing techniques, sales, product knowledge, business operations, management awareness, inventory records/recordkeeping techniques with supervision/evaluation facilitated by instructor and contract training person.

10-104-180 RETAIL MANAGEMENT FIELD STUDY ...examine a product or business career of major interest to the student through a research project that is student selected and instructor approved.

10-104-190 RETAIL PRINCIPLES ...macro issues facing retailers, including structural dynamics; strategic planning, environmental factors; consumer behavior; site selection; selecting markets in which to compete; and retailing issues, opportunities, and outlook.

10-104-191 CUSTOMER SERVICE MANAGEMENT ...develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, set complaint policies, and develop communication techniques to handle complaining customers.

10-104-193 RETAIL OPERATIONS MANAGEMENT ...management of a retail store operation including retail planning and control; retail information systems; and human resource management including placement, orientation, evaluation, recruiting, interviewing, discipline, performance problems, and training.

10-182-157 LOGISTICS MANAGEMENT ...basic concepts, management levels, elements of inventory control, transportation, warehousing, packaging, material handling and purchasing, and the role order processing plays in the distribution cycle.

10-196-110 SUPERVISION PRINCIPLES ...supervisor's role, planning, problem solving, organizing/staffing/training/retraining employees, motivation, evaluating performance, challenging employees, teamwork, controlling work, discipline, productivity, quality, and diversity.

10-196-189 PROBLEM SOLVING/TEAM BUILDING ...group dynamics, running productive meetings, and conflict resolution; problem-solving models; practice models in practical work and real-life applications.

10-196-193 HUMAN RESOURCE MANAGEMENT ...development of employee effectiveness; hiring, orientation, and training; performance management; motivating employees; and related topics that affect the supervisor's work group.

Speech Language Pathologist Assistant

ASSOCIATE DEGREE - SIX SEMESTERS

Program Code 105321

Offered at the Green Bay campus. Admissions, registration or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

The Speech-Language Pathologist Assistant program prepares students to work under the supervision of a certified and licensed Speech-Language Pathologist who evaluates, diagnoses, and treats individuals with communication and swallowing disorders. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Speech-Language Pathologist Assistant program, under the supervision of a certified licensed Speech-Language Pathologist, will be able to:

- Perform duties at entry-level safely, and within scope of practice.
- Follow instructions of supervising Speech-Language Pathologist and use feedback constructively.
- Use effective oral and written communication in the workplace.
- Demonstrate effective interpersonal skills with clients, caregivers and other professionals.
- Employ time management skills.
- Conduct screenings without interpretation.
- Assist the Speech-Language Pathologist during assessment of patients, such as those that are difficult to test.
- Prepare materials for treatment and set up for treatment session.
- Provide direct treatment as directed by Speech-Language Pathologist.
- Select age-appropriate and culturally motivating materials for treatment.
- Maintain equipment and materials.
- Document patient progress toward established objectives stated in treatment plan/IEP.
- Perform administrative procedures such as informal documentation, chart preparation, and scheduling.
- Participate in research projects, in-service training and public relations programs.
- Adhere to ethical and legal standards.
- Demonstrate global awareness of communication and communication related disorders.

EMPLOYMENT POTENTIAL

A graduate of this program will have the potential for employment as a Speech-Language Pathologist Assistant. This is an emerging occupation and the job outlook is not fully predictable. The U.S. Department of Labor Occupational Outlook Handbook predicts that the growth in Speech-Language Pathology will be much faster than average (30% or more) through the year 2008.

SPEECH-LANGUAGE PATHOLOGIST ASSISTANT:

Performs speech-language screens, carries out treatment plans, observes and reports patients' responses, assists with assessment, schedules activities, prepares charts, performs maintenance of equipment, all under the supervision of a certified-licensed Speech-Language Pathologist.

With additional education and/or work experience, a graduate may find employment as:

- Speech-Language Pathologist

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
- 1 year HS Biology or equivalent within the last 5 years
- 1 year HS Algebra or equivalent
- Completion of AHACPR Provider Course prior to program entry
- A minimum standard ACT score of 20 in reading comprehension, sentence skills, arithmetic, and elementary algebra
- Medical examination within 3 months prior to program entry
- Caregiver background check
- Proposed for Fall 2001 - Pass a Speech and Hearing Examination

READING LEVEL

Textbook readability within this program has an average level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

CURRICULUM

The Speech-Language Pathologist Assistant Associate Degree is a six semester program. Upon graduation a student will have completed 72 credits.

FIRST SEMESTER

Course No.	Description	Credits
10-801-196	Oral/Interpers Communication	3
10-809-198	Psychology-Intro	3
	SEMESTER TOTAL	**6**

SECOND SEMESTER

10-103-103	Micro Basics MS Office 1	3
* 10-532-112	SLPA-Intro	2
* 10-532-113	SLPA-Speech/Phonetics	3
* 10-532-114	SLPA-Documentation	1
10-806-182	Anatomy/Physiology 1	3
10-809-190	Human Growth/Development	3
	SEMESTER TOTAL	**15**

THIRD SEMESTER

10-160-110	Health Care Overview	3
* 10-532-123	SLPA-Speech/Lang Develop	3
* 10-532-124	SLPA-Aural Rehabilitation	3
* 10-801-195	Communication-Written	3
10-806-187	Anatomy/Physiology 2	3
	SEMESTER TOTAL	**15**

FOURTH SEMESTER (SUMMER)

* 10-532-132	SLPA-Swallowing Disorders	2
* 10-532-133	SLPA-Assistive Technology	2
	Elective	3
	SEMESTER TOTAL	**7**

FIFTH SEMESTER

* 10-532-134	SLPA-Speech Disorders/Treat	4
* 10-532-135	Language Disorders & Treat	4
* 10-532-136	SLPA-Clinical Procedures	4
10-809-195	Economics	3
	SEMESTER TOTAL	**15**

SIXTH SEMESTER

* 10-532-142	Speech Lang Path Asst Semnr	1
* 10-532-143	SLPA Fieldwork 1	3
* 10-532-144	SLPA Fieldwork 2	3
* 10-532-145	SLPA-Ethical Decision-Make	1
10-809-197	Society-Amer Contemp	3
	Elective	3
	SEMESTER TOTAL	**14**

NOTE: No final grade lower than C is acceptable in any of the courses marked with an asterisk. A student must repeat that particular course to achieve a C or better final grade in order to continue in or graduate from this program.

This program is fully eligible for Financial Aid.

The Speech-Language Pathologist Assistant program will pursue accreditation with the Council on Academic Accreditation in Audiology and Speech-Language Pathology of the American Speech-Language Hearing Association in January, 2002. Graduates of the program are eligible to register with the American Speech-Language-Hearing Association (ASHA) as a Speech-Language Pathologist Assistant beginning January, 2003.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field:

10-532-112 SLPA-INTRODUCTION ...the profession of Speech-Language Pathology, professional resources, communication, communication disorders, educational system, healthcare system and current trends.

10-532-113 SLPA-SPEECH/PHONETICS ...phonetics, acoustical phonetics, speech production, speech perception, speech categories, transcriptional phonetics, experimental phonetics, and clinical phonetics.

10-532-114 SLPA-DOCUMENTATION ...SOAP notes, narrative notes, medical terminology, Medicare guidelines, and progress notes.

10-532-123 SLPA-SPEECH/LANGUAGE DEVELOPMENT ...neurolinguistics; language vs. thought; birth-to-two, preschool, school age speech development; language diversity; disorders; and aging.

10-532-124 SLPA-AURALREHABILITATION ...aural rehabilitation, amplification systems, habilitation of children, educational management, management adults, and management geriatrics.

10-532-132 SLPA-SWALLOWING DISORDERS ...normal swallow, abnormal swallow, diagnostic procedures, neurologic dysphagia, mechanical dysphagia, team approach, nutrition, feeding issues, direct treatment, indirect treatment, and pediatric dysphagia.

10-532-133 SLPA-ASSISTIVE TECHNOLOGY ...augmentative/alternative communication assessment, unaided communication, aided communication, intervention strategies, funding, resources, and case studies.

10-532-134 SLPA-SPEECH DISORDERS/ TREATMENT ...articulation, phonology, developmental apraxia, voice disorders of children, fluency disorders of children, acquired apraxia, dysarthria, voice disorders of adults, fluency disorders of adults, special populations, treatment materials, case studies.

10-532-135 SLPA-LANGUAGE DISORDERS/ TREATMENT ...language disorders, language disorders of children, language disorders of adolescents, screening and assessment, intervention, IEPdevelopment, aphasia, right hemisphere disorders, traumatic brain injury, dementia, multicultural issues, and case studies.

10-532-136 SLPA-CLINICALPROCEDURES ...intervention methods, school-based treatment, medical treatment, administrative procedures, cultural diversity, universal precautions, screening, treatment, documentation, communicative competence, case studies, and fieldwork experience.

10-532-142 SLPA-UPDATE ...clinical situations, interviewing skills, job-seeking skills, and competency check-off.

10-532-143 SLPA FIELDWORK 1 ...ethical standards, interpersonal communication, universal precautions, speech-language screening, treatment plans, behavior management, documentation, assist SLP, clerical procedures, scheduling, maintenance of materials, team collaboration, clinical clock hours, communication with SLP.

10-532-144 SLPA FIELDWORK 2 ...ethical standards, interpersonal communication, universal precautions, speech-language screening, treatment plans, behavior management, documentation, assist SLP, clerical procedures, scheduling, maintenance of materials, team collaboration, clinical clock hours, communication with SLP.

10-532-145 SLPA-ETHICALDECISION-MAKING ...ethics defined, elements of ethics, ethical problems, decision-making, responsibilities, professional relationships.

Supervisory Management Program Code 101961

ASSOCIATE DEGREE - ACCELERATED AND FLEXIBLE LEARNING OPTIONS

Offered at the Green Bay, Marinette, and Sturgeon Bay campuses. Information in Green Bay: (920) 498-5733. Information in Marinette: (715) 735-9361. Information in Sturgeon Bay: (920) 743-2207. Toll free: (800) 422-NWTC.

The 11 occcupational specific courses, those beginning with a course number 196-xxx, are delivered in an Accelerated Learning format, specifically intended for working adults. These courses have a compressed schedule of six weeks. Students may complete three courses, totaling nine credits in the same time that one traditional three-credit course is completed.

PROGRAM DESCRIPTION

Supervisory Management provides educational experiences to individuals preparing for, or already engaged in, leadership positions; and opportunities to explore specific applications in a given occupation.

The program is offered on a flexible, part-time schedule with most hours arranged to accommodate working adults. A student may complete portions of the program through credit by examination, credit for work experience, TV home study courses, and transfer of credit from other accredited institutions. Courses may also be taken on a full-time schedule. The occupation specific courses have classroom contact hours reduced but they deliver equivalent knowledge and skills.

Graduates of this program will be able to:
• Practice ethical leadership.
• Perform in team environments.
• Value diversity.
• Demonstrate workplace communication skills.
• Demonstrate analytical/creative thinking.
• Understand the financial components of an organization.
• Exhibit leadership skills.
• Envision change.
• Adapt organizations for change.
• Apply continuous improvement processes.
• Affect workplace safety.
• Apply current legal workplace standards.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• Basic reading and writing skills
• Math and reading assessments
• Completion of all recommended activities to address math and reading skill deficiencies

READING LEVEL

Textbook readability within this program has an average reading level of 13th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

This program is designed to attract persons who are already engaged in, or are preparing for, supervisory or leadership roles in an organization. An employee who is already in a supervisory, leadership, or other management level position will be able to expand his/her level of effective leadership skills.

An employee not currently in a first level management role, who has established a good working relationship with his/her present employer, will enhance leadership skills and increase the chance of promotion into a leadership role as an opportunity presents itself within the company.

A graduate of the program who has little or no previous leadership experience, or a short employment record, will learn effective leadership skills useful on the job and in the community. Traditionally a supervisor plans, organizes, directs, and coordinates activities of non-management employees in various occupational settings; trains and evaluates employees under her or his authority; implements policy decisions and work systems established by upper management; and facilitates intra-departmental and inter-departmental communication and work flow.

In addition to traditional supervisory skills and practices, today's leaders must understand system(s), variation, and the Quality Improvement Process; be resources rather than bosses; effectively manage work place diversity; display leadership skills; use critical thinking skills; and use communication skills appropriate to the new team environment.

Students may take 12-15 credits per semester and complete the degree in 2 to 2 1/2 years.

CURRICULUM

The Supervisory Management Associate Degree consists of 11 occupational specific courses. Each course is six weeks in length. Upon graduation, a student will have completed 66 credits.

Course No.	Description	Credits
10-196-191	Supervision	3
10-196-190	Leadership Development	3
10-196-193	Human Resource Mgmt	3
10-196-199	Ethics	3
10-196-196	Managing Diversity/Chg	3
10-196-192	Managing-Quality	3
10-196-198	Organizational Develop	3
10-196-189	Problem Solve/Team Bldg	3
10-196-195	Legal Issues	3
10-196-194	Safety Awareness	3
10-196-197	Managerial Bdgt/Finance	3
	TOTAL CREDITS	**33**

Individuals may select the following accelerated or traditional occupational support and general education courses in any sequence while attending accelerated occupational specific courses.

These course requirements can also be met through credit for work experience, TV home study courses, and transfer of credit from other accredited institutions.

Course No.	Description	Credits
10-101-141	Accounting-Financial	3
10-102-150	Law-Business	3
10-103-103	Micro Basics MS Office 1	3
10-801-195	Communication-Written	3
10-801-196	Communication-Interpers	3
10-804-101	Math-Business	3
10-809-195	Economics	3
10-809-197	Society-Amer Contemp	3
10-809-199	Psychology-Human Rel	3
	Elective	3
	Elective	3
	TOTAL CREDITS	**33**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

10-196-189 PROBLEM SOLVING/TEAM BUILDING ...group dynamics, running productive meetings, and conflict resolution; problem-solving models; practice models in practical work and real-life applications.

10-196-190 LEADERSHIP DEVELOPMENT ...principles of personal leadership, the elements of personal victory, public victory and renewal, managerial and organizational development, and modern leadership issues.

10-196-191 SUPERVISION ...direct individuals and the work to be done within an organization; human behavioral aspects; and supervisory principles of organizing, staffing, leading, and controlling.

10-196-192 MANAGING-QUALITY ...role of the supervisor in assisting an organization to produce a quality product or service.

10-196-193 HUMAN RESOURCE MANAGEMENT ...development of employee effectiveness; hiring, orientation, and training; performance management; motivating employees; and related topics that affect the supervisor's work group.

10-196-194 SAFETY AWARENESS ...supervisor's responsibility for maintaining a safe and productive workplace.

10-196-195 LEGAL ISSUES ...legal practices of recruiting, interviewing, selection, nondiscrimination (hiring), negligent hiring, evaluation/promotion, privacy, FMLA, nondiscrimination (managing), harassment, ADA labor laws, discipline, firing, public policy, older employees.

10-196-196 MANAGING DIVERSITY/CHANGE ...a broadened view of diversity, including values, age, disabilities, education, and cultures; action framework to gain advantage by blending/capitalizing on different skills and perspectives of people.

10-196-197 MANAGERIALBUDGETING/ FINANCE ...describing and assessing a business; defining management and marketing structure; summarizing business information; forecasting sales and completing financial statements; analyzing, adjusting, and presenting a business plan.

10-196-198 ORGANIZATIONAL DEVELOPMENT ...issues related to how people work and exist within an organizational setting.

10-196-199 ETHICS ...ethical points-of-view, morality/ethical theory, utilitarianism, Kantian ethics, justice and the market system, whistle-blowing, trade secrets/conflict of interest, privacy, advertising, product safety, corporate social responsibility, international business.

Descriptions of courses not found on this page can be found in the back of the catalog.

Surgical Technologist

Program Code 315121

TECHNICAL DIPLOMA - 3 SEMESTER PROGRAM: ENTER IN SUMMER OR FALL

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5543. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Surgical Technologist prepares and maintains a sterile field before and during surgery, passes instruments and supplies to the surgeon, provides safe patient care, and prepares instruments for the next operative procedures. Wisconsin's Caregiver Law (1997 WISCONSIN ACT 27) requires a completed criminal background check prior to access to patients and/or children in clinical agencies/field sites used by this program. Based upon results of the criminal background check, a student may be denied access to clinical agencies/field sites and thus would not be able to complete the program. For the most current information on the Caregiver Law, visit this Web site: www.dhfs.state.wi.us

Graduates of the Surgical Technologist program will be able to:

- Be successfully employed in the field.
- Function as a member of the surgical team.
- Apply and maintain the principles of sterile technique and safety in the operating room.
- Prepare, handle, and care for surgical instruments, supplies, equipment, and medication.
- Use medical terminology.
- Identify basic anatomy and physiology.
- Maintain CPR certification.
- Operate a personal computer.
- Communicate effectively.
- Recognize the legal and policy limits of individual responsibility.
- Pass the Certification Test.

Students will be required to purchase their own scrub suits, provide their own transportation to clinical facilities, and pay for liability insurance for each clinical course.

The Surgical Technologist Program is accredited by Commission on Accreditation of Allied Health Education Programs in collaboration with the Accreditation Review Committee on Education in Surgical Technology

> 7108-C South Alton Way, Suite 150
> Englewood, CO 80112
> (303) 694-9262
> FAX (303)689-0518

READING LEVEL

Textbook readability within this program has an average level of 14th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as a Surgical Technologist, Central Supply Technician, Claims Approver, or Private Scrub Technician.

SURGICALTECHNOLOGIST: prepares and maintains a sterile field before and during surgery, passes instruments and supplies to the surgeon, provides safe patient care, and prepares instruments and supplies for the next operative procedure.

CENTRAL SUPPLY TECHNICIAN: performs general cleaning of soiled equipment and instruments, assembles procedure trays and instrument pans, maintains inventories, loads the sterilizer, records patient charges, and does general record keeping.

CLAIMS APPROVER: processes insurance claims on a computer terminal.

PRIVATE SCRUB TECHNOLOGIST: is hired by the physician and assists as a surgical technologist in a hospital or in a private practice.

REQUIREMENTS FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
- Satisfactory placement in the NWTC mathematics and reading tests or satisfactory placement on the ACT assessment test
- An interview or orientation
- A satisfactory medical examination within three months before entering the program
- All students are required to complete an American Heart Association Health Care Provider CPR course prior to program entry. Students are required to maintain a current CPR card on a one-year renewal cycle to comply with affiliating agency requirements.

CURRICULUM

The Surgical Technologist Technical Diploma is a three-semester program. Upon graduation, a student will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
* 31-509-360	Medical Terminology	2
31-801-385	Communicating-Writing	1
31-801-386	Communicating-Interpers	1
* 31-806-312	Anatomy/Struct-Funct	2
	SEMESTER TOTAL	**6**

SECOND SEMESTER

30-106-345	Information Process-Basic	1
* 31-512-311	Surgical Tech Proc/Lab	8
* 31-512-315	Surgical Tech Clinical 1	5
* 31-512-316	Surgical Tech Skills	1
	SEMESTER TOTAL	**15**

THIRD SEMESTER

* 31-512-324	Surgical Tech Proc-Adv	3
* 31-512-325	Surgical Tech Clinical 2	6
* 31-512-335	Surgical Tech Clinical 3	3
	SEMESTER TOTAL	**12**

NOTE: Astudent may enroll in course #10-510-165 Medical Terminology, to meet the course requirement for course #31-509-360, Medical Terminology.

NOTE: A minimum of a C grade is required for all courses marked with an asterisk.

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-509-360 MEDICAL TERMINOLOGY ...spelling, pronunciation, definition, and abbreviation application; word roots, prefixes, and suffixes; and anatomical structure.

31-512-311 SURGICALTECHNOLOGIST PROCEDURES/LABORATORY ...hospital environment, surgical team, asepsis, ethical and legal responsibilities, microbiology, infection control, sterilization, anesthesia, positioning patients, draping, specimen care, scrub and circulating duties. (Prerequisite: Accepted into Surgical Technologist)

31-512-315 SURGICAL TECHNOLOGIST CLINICAL 1 ...introduction to the operating room environment, identification and proper handling of surgical instrumentation, demonstration of scrubbing and circulating duties, body substance isolation, and utilization of the sterilization process. (Prerequisite: 31-512-311, Surgical Tech Proc/Lab)

31-512-316 SURGICAL TECHNOLOGIST SKILLS ...draping skills, Mayo stand and/or back table set-ups, routine surgical medications, specialized equipment and supplies utilized during surgery. (Prerequisite: Accepted into Surgical Technologist)

31-512-324 SURGICALTECHNOLOGIST PROCEDURES-ADVANCED ...in-depth coverage of surgical procedures incorporating anatomy, terminology, instruments, medications, specialized equipment, and supplies utilized, as well as patient perioperative care. (Prerequisite: 31-512-315, Surgical Tech Clinical Process 1)

31-512-325 SURGICALTECHNOLOGIST CLINICAL 2 ...supervised application of intermediate level skills of a surgical technologist on minor procedures and beginning level skills on major procedures. (Prerequisite: 31-512-315, Surgical Tech Clinical Process 1)

31-512-335 SURGICALTECHNOLOGIST CLINICAL 3 ...supervised application of advanced skills of an entry-level surgical technologist demonstrated on minor and major surgical procedures; the second scrub role will also be assumed. (Prerequisite: 31-512-325, Surgical Tech Clinical Process 2)

Descriptions of courses not found on this page can be found in the back of the catalog.

Weld Inspection

Program Code 304423

TECHNICAL DIPLOMA - ONE SEMESTER

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Weld Inspection prepares students to inspect and to use destructive and nondestructive methods to examine welds to code.

Graduates of the Weld Inspection Program will be able to:
• Examine metallurgical specimens.
• Examine weldments using nondestructive test methods.
• Examine weldments using destructive test methods.
• Evaluate weld test results.
• Interpret weld and nondestructive test symbols.
• Document test results for procedure and welder qualifications.
• Communicate inspection details.
• Interpret code requirements.
• Examine weldments for acceptability.
• Troubleshoot welding problems.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

• A one-year welding program or documentation of equivalent work experience.

READING LEVEL

Textbook readability within this program has an average level of 15th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the Weld Inspection program will have the potential for employment as a Manufacturer/Contractor Weld Inspector, Purchaser/Owners Weld Inspector, Nondestructive Technician, or Quality Control Representative.

MANUFACTURER/CONTRACTOR WELD INSPECTOR: is a responsible representative of a company producing the product. The inspector is involved in the determination of weld quality in accordance with existing codes or specifications, and often acts as a troubleshooter.

PURCHASER/OWNERS WELD INSPECTOR: is a responsible representative of a company purchasing a fabricated product who determines if the level of quality meets the requirements of the contract.

NONDESTRUCTIVE TECHNICIAN: specializes in the field of nondestructive evaluation of weldments using dye penetrant, magnetic particles, ultrasonics, or radiography.

QUALITY CONTROL REPRESENTATIVE: is responsible for the monitoring of quality level using visual inspection, welding codes, and nondestructive testing. This person acts as a combination of an overseer and specialist.

With additional education and/or work experience, graduates may find other opportunities for employment.
• Certified Weld Inspector
• State Registered Welder
• Certified Welder

CURRICULUM

The Weld Inspection Technical Diploma is a one-semester program. Upon graduation, a student will have completed 14 credits.

FIRST SEMESTER

Course No.	Description	Credits
30-422-337	Weld Mat Analysis	2
30-442-341	Weld Inspection Fund/Code	3
30-442-342	Weld Inspection-Prac	3
30-470-334	Nondestructive Test A	3
30-470-335	Nondestructive Test B	3
	SEMESTER TOTAL	**14**

This program is partially eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

30-422-337 WELD MATERIALANALYSIS ...the metallurgical properties of welds as related to the welding processes, application of testing these properties as related to the welding codes, and the interpretation of the test analysis.

30-442-341 WELD INSPECTION-CODE ...documents governing inspection, joint geometry, terminology, welding and NDT symbols; mechanical/chemical properties of metals; welding, brazing, and cutting process; weld/base metal discontinuities; destructive and nondestructive testing; and welding codes.

30-442-342 WELD INSPECTION-PRACTICAL ...visual inspection techniques, procedure/welder qualification, destructive and nondestructive examination of welds, weld process inspection, and the use of inspection tools.

30-470-334 NONDESTRUCTIVE TEST A ...identification and classification of discontinuities; nondestructive examination of welds using dye penetrant, ultrasonic, and magnetic particle test methods; and interpretation of test results according to code.

30-470-335 NONDESTRUCTIVE TEST B ...nondestructive examination of welds using magnetic particle and radiographic test methods, radiation measurement and safety, and interpretation of radiographs according to AWS Code D1.1.
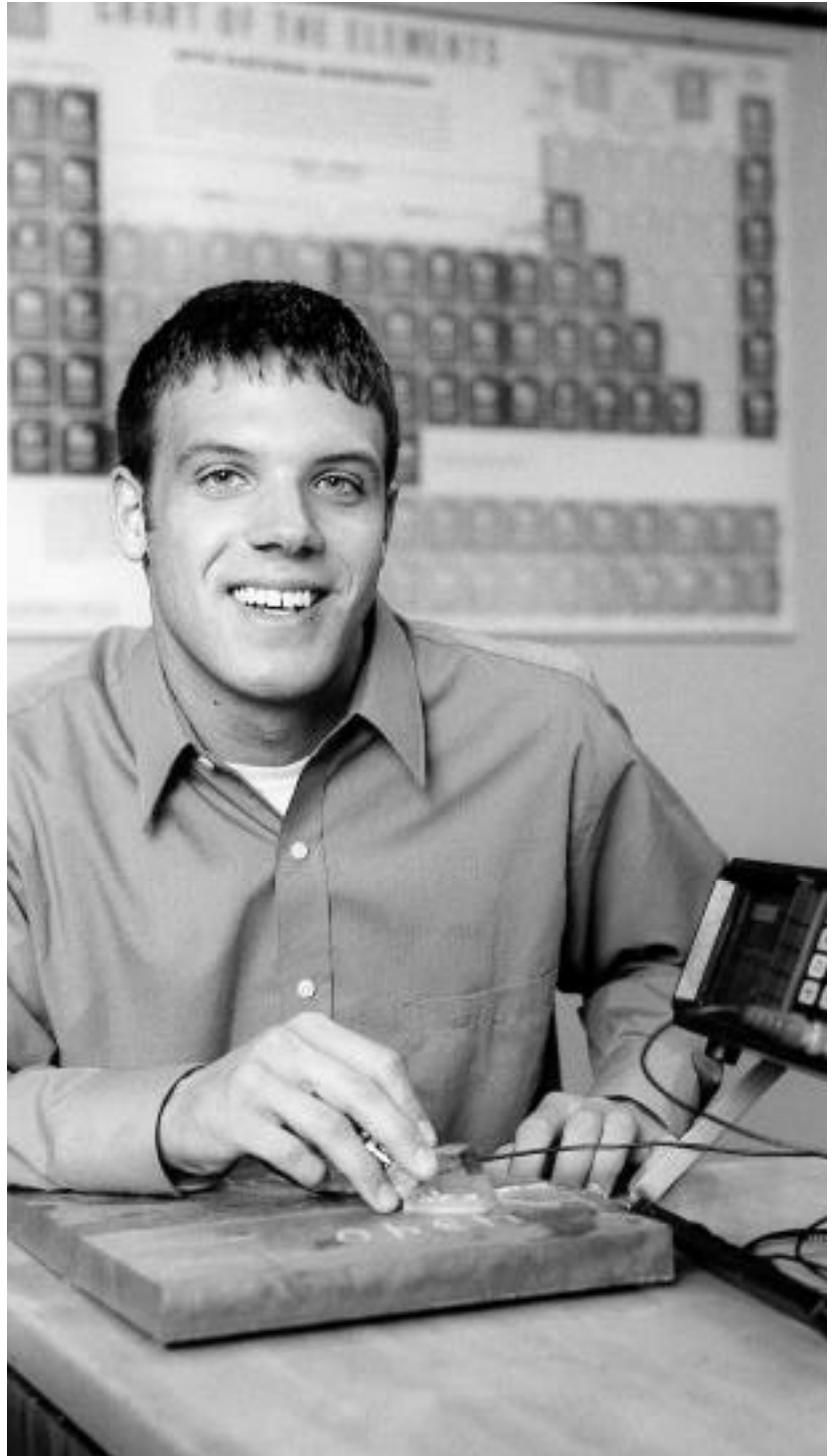
Descriptions of courses not found on this page can be found in the back of the catalog.

Welding

Program Code 314421

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Marinette and Green Bay campuses. Information in Marinette: (715) 735-9361. Information in Green Bay: (920) 498-5733.

Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Welding prepares students to join metal by applying heat and pressure to melt the edges of metal sections together to form a permanent bond. Welders plan layouts or work from blueprints, drawings, or other specifications.

Graduates of the Welding Program will be able to:
- Be successfully employed in the welding industry.
- Perform procedures using plasma, carbon arc, oxyacetylene processes.
- Perform procedures using the shielded metal arc process (S.M.A.W.).
- Perform procedures using the Gas Metal Arc process (G.M.A.W.).
- Perform procedures using the Gas Tungsten Arc process (G.T.A.W.).
- Perform procedures using the Flux Core Arc welding process. (F.C.A.W.).
- Perform procedures using the Submerged Arc process (S.A.W.).
- Perform welding procedures using the Metal Core process.
- Interpret mechanical drawings.
- Fabricate projects from blueprints and sketches.
- Perform basic mathematical computations.
- Identify various ferrous and non-ferrous materials.
- Communicate with co-workers and supervisors.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent. (Equivalency may be established through GED testing or other tests.)

READING LEVEL

Textbook readability within this program has an average level of 10th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

Agraduate of the program will have the potential for employment as Maintenance Welder, Qualified Welder, Structural Welder, Welder/Fabricator, and Pipe Welder. In these jobs, the graduate will build and repair metal components using basic knowledge of blueprints, metallurgy, and layout while applying the major welding processes used by industry; and will be trained in code welding according to the A.W.S. (American Welding Society) and A.S.M.E. (American Society of Mechanical Engineers) with testing provided on campus. Other positions might include Construction Trades Welder, Ironworker Trades Welder, Millwright, Sheetmetal Trades Welder, and Pipe Trades Welder. People in many apprenticeship programs are required to take welding classes as part of their training.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Journeylevel Welder
- Welding Inspector
- Welding Supervisor
- Journeylevel Welder/Fabricator

CURRICULUM

The Welding Technical Diploma is a one-year, two-semester program. Upon graduation, students will have completed 34 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-442-301	Welding-Cutting/Visual	1
31-442-313	Blueprint Reading	2
31-442-314	Welding-Layout	3
31-442-316	Welding-Shielded Metal Arc	5
31-442-317	Welding-Gas Metal Arc	5
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**18**

SECOND SEMESTER

Course No.	Description	Credits
31-422-310	Metallurgy	2
31-442-321	Welding-Gas Tungsten Arc	5
31-442-323	Welding-Flux Core Arc	4
31-442-324	Metal Fabrication	4
31-801-386	Communicating-Interpers	1
	SEMESTER TOTAL	**16**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-422-310 METALLURGY... manufacture of iron and steel, mechanical and physical properties of metals, metal identification, macro and microscopic grain structures, welding metallurgy, applied heat treating processes, and weld failures and fractures.

31-442-301 WELDING-CUTTING/VISUAL ...visual inspection of weld and cut edges, manual and machine oxy fuel gas cutting, air carbon arc cutting, plasma arc cutting, and mechanical cutting methods.

31-442-313 BLUEPRINT READING ...orthographic projection, sketching, dimensioning, section and auxillary views, structural shape identification, weld symbols, welding symbol nomenclature welded joint geometry, metric conversion and interpretation of fabrication from prints.

31-442-314 WELDING-LAYOUT ...use measuring instruments, geometric nomenclature; elemental, circular and polygon construction; parallel line, radial line, triangulation and development of drawings to scale. (Corequisite: 31-442-313, Blueprint Reading)

31-442-316 WELDING-SHIELDED METALARC ...safety, SMAW equipment, materials, accessories, inspection, weld types, joints, and position. (Prerequisite: 31-442-301, Welding-Cutting/Visual)

31-442-317 WELDING-GAS METALARC (GMAW) ...welding safety, GMAW equipment/set up, joint details and distortion control, GMAW weld faults, welding metallurgy, and weld symbol interpretation. (Prerequisite: 31-442-301, Welding-Cutting/Visual)

31-442-321 WELDING-GAS TUNGSTEN ARC ...perform gas tungsten arc welding (GTAW) in all positions, on plain carbon steel, aluminum, and 3XX stainless steel. (Prerequisite: 31-442-301, Welding-Cutting/Visual)

31-442-323 WELDING-FLUX CORE ARC ...safety, FCAW equipment components, accessories, inspection and minor repairs, weld types and weld joint nomenclature, surface welds and all positions fillet, and groove welds. (Prerequisite: 31-442-301, Welding-Cutting/Visual)

31-442-324 METAL FABRICATION ...metal fabrication, hazards, production, measuring tools, metal shear, forming roll, pressbrakes, box and pan brake, sawing equipment, drill press, sheet metal tools, the hydraulic ironworker, and layout of shapes. (Corequisites: 31-442-313, Blueprint Reading; 31-442-314, Welding-Layout)

Descriptions of courses not found on this page can be found in the back of the catalog.

Wood Technics   Program Code 314102

TECHNICAL DIPLOMA - ONE YEAR

Offered at the Green Bay campus. Admissions, registration, or counselor: (920) 498-5733. Course information: (920) 498-5461. Toll free: (800) 422-NWTC.

PROGRAM DESCRIPTION

Wood Technics prepares students to enter the building construction trades as carpenters and cabinetmakers.

Graduates of the Wood Technics Program will be able to:

- Use materials according to application.
- Adhere to safety standards.
- Use industry terminology.
- Use measuring systems in the industry.
- Visualize final products from blueprints.
- Estimate labor and material costs.
- Erect building and cabinet modules.

REQUIREMENT FOR PROGRAM ENTRY

NWTC requires an entrance skill inventory for all program students. Please see the Accuplacer section of this catalog for more information.

- High school diploma or equivalent
  (Equivalency may be established through
  GED testing or other tests.)

READING LEVEL

Textbook readability within this program has an average level of 10th grade.

MATH LEVEL

Students should have mastered basic math skills. For a description of basic math, see the Basic Education section of this catalog.

EMPLOYMENT POTENTIAL

A graduate of the program will have the potential for employment as: Carpenter/Cabinetmaker, Carpenter/Finish, Carpenter/General Builder, Carpenter/Mill Worker and Carpenter/Rough.

CARPENTER/CABINETMAKER: builds cabinets; is capable in layout, frame, fabrication, assembly, and finish preparation; applies laminated plastic; and installs drawers and door hardware.

CARPENTER/FINISH: applies interior wall covering and paneling, hangs doors, applies trim, and installs and adjusts cabinets and built-in furniture.

CARPENTER/GENERALBUILDER: works in all areas of building construction; installs interior and exterior finish surface materials, interior floor and ceiling specialties, rough framing, building layout, stair construction, and interior trim and cabinetry.

CARPENTER/MILLWORKER: works in a factory setting; mass produces trim, cabinets, and furniture; custom planes and saws; and handles other operations that demand the use of large and specialized machinery.

CARPENTER/ROUGH: erects forms for concrete foundations, rough framing, and roofing for residential and commercial construction; erects scaffolding; installs sheathing, siding, and prepares site for jobs.

With additional education and/or work experience, graduates may find other opportunities for employment.
- Contractor
- Carpenter Journeyperson
- Mill Supervisor
- Journeylevel Cabinet Maker

CURRICULUM

The Wood Technics Technical Diploma is a one-year, two-semester program. Upon graduation, a student will have completed 33 credits.

FIRST SEMESTER

Course No.	Description	Credits
31-403-350	Blueprint Rdg-Construction	2
31-410-301	Wood Tech-Bldg Matl Est	2
31-410-310	Wood Tech-Carpentry	10
31-804-301	Math 1-Trades	2
	SEMESTER TOTAL	**16**

SECOND SEMESTER

Course No.	Description	Credits
31-403-360	Blueprint Rdg-Cabinetry	2
31-409-320	Wood Tech-Cabinet Making	10
31-801-385	Communicating-Writing	1
31-801-386	Communicating-Interpers	1
31-804-302	Math 2-Trades	1
31-806-354	Science-Wood Tech	2
	SEMESTER TOTAL	**17**

This program is fully eligible for financial aid.

COURSE DESCRIPTIONS

These courses provide an opportunity for students to develop the knowledge, skills, and understanding required for employment in this field.

31-403-350 BLUEPRINT READING CONSTRUCTION ...drawing development/equipment, blueprints, plot and building layout, scaling and dimensioning practices, symbols, notations, basement/floor elevations, detail/sectional drawings, residential/industrial print reading, and schedules and specifications.

31-403-360 BLUEPRINT READING-CABINETRY ...sectional detail, cabinet layout, blueprint reading, angle layout, and countertop layout.

31-409-320 WOOD TECHNICS-CABINET MAKING ...the cabinetmaker trade including tools/equipment, kitchen cabinets, materials selection/estimate, base cabinet construction, drawer construction, base cabinet drawer installation, upper wall cabinets/doors, custom cabinet installation, cornering, and cabinet hardware specialities.

31-410-301 WOOD TECHNICS-BUILDING MATERIALESTIMATES ...perform material and labor cost estimates of building foundations, floor systems, superstructures, and exterior and interior finish systems.

31-410-310 WOOD TECHNICS-CARPENTRY ...general shop safety, construction types, construction materials, softwood/hardwood, tool safety, hand tools, power machinery, framing, footings/foundations, roofing, stair construction, scaffolds, and interior/exterior finish.

Descriptions of courses not found on this page can be found in the back of the catalog.

Occupational Support Course Descriptions

10-001-121 PLANT PROPAGATION
...plant propagation and production techniques. **3 cr.**

10-001-130 PLANT-INTERIOR
...how to identify indoor tropical plants and blooming plants that are used in interior plantscaping. Includes identification, plant varieties, pests, diseases, and cultural requirements. Also designing with houseplants. **3 cr.**

10-001-140 PLANT DIAGNOSTIC SKILLS ...science of making proper diagnoses of plant insects and disease problems and appropriate control strategies. Learn the difference between signs and symptoms and identification of problem plants. **2 cr.**

10-001-150 GOLF COURSE MANAGEMENT ...golf course management industry. Selected aspects and management practices of managing and maintaining a golf course will be explored as to providing a venue for the game of golf. **1 cr.**

10-001-153 PLANT CULTURE/SOIL FUNDAMENTALS ...examines the plant, its parts, functions, and relationships to its environment. Particular attention is given to the plant's interaction with the soil. **3 cr.**

10-006-101 AGRI-BUSINESS MARKETING ...basic knowledge of agribusiness sales and marketing, recognizing potential customers, building a positive customer relationship, designing marketing plans, and using marketing and sales databases. Concepts presented using hands-on activities. **2 cr.**

10-065-185 FOOD/FIELD STUDY
...the work and workflow of a production laboratory, business organization and structure, job assignments, and occupational and experience reports. **3 cr.**

10-080-151 FARM MACHINERY-CROP ...tillage, planting, cultivation, and harvesting machines; proper operation adjustments for plows, disc, cultivator, corn planter, grain drill, forage seeder, combine, forage harvester, haybine, blower, and sprayer. **2 cr.**

10-080-153 FARM MECHANICAL-MATERIAL HANDLING ...elements of modern farmstead design, livestock housing environment, animal comfort, livestock handling equipment, feeding systems, milking procedures, milking facilities, animal health concerns, and waste management. **2 cr.**

10-080-157 DAIRY HERD MANAGEMENT ...selection, breeding, group feeding, animal health, milking, and record management; management of mature and young animals; housing and waste management; milking equipment; effective milk and livestock marketing; and professional organizations. **3 cr.**

10-101-101 ACCOUNTING PRINCIPLES ...accounting fundamentals, recording of business transactions, preparation of financial statements, cash basis and accrual business accounting for service enterprises, and merchandising businesses with a manual and computer system. **3 cr.**

10-101-102 ACCOUNTING-INTRODUCTION ...what accounting information is, why it is important, and how it is used by economic decision-makers. **3 cr.**

10-101-105 ACCOUNTING-COMPUTER LEDGER ...applications on calculators and microcomputers using Microsoft Excel such as addition, subtraction, multiplication, division, percent, memory, and business problems. Requires experience with Windows, and prior completion of an introductory course in Word, and introductory and intermediate courses in Excel. **2 cr.**

10-101-110 ACCOUNTING 1
...accounting principles, financial statements, business transactions, accounting cycles/systems, specialized journals, accounting for cash, receivables, and temporary investments, inventories, fixed assets, payroll, notes payable, current liabilities, sole proprietorships, and partnerships. **4 cr.**

10-101-141 ACCOUNTING-FINANCIAL ...the accounting cycle, specialized journals, system design, inventory systems, cost-accounting process, job order and standards, management decision-making concepts, and capital investment and financial statement analysis. **3 cr.**

10-102-101 FINANCIAL APPLICATIONS ...use of financial calculators, checkbook records, purchasing systems, shipping/receiving systems, A/R systems, A/P systems, business loans, breakeven analysis, sales gain/loss, depreciation methods, inventory methods, and financial statement analysis. **3 cr.**

Occupational Support Course Descriptions

10-102-150 LAW-BUSINESS
...common law contracts and sales contracts: formation, interpretation, performance, and discharge; the law of agency; corporations; and introduction to the American legal system: criminal and tort law. **3 cr.**

10-102-158 BUSINESS-INTRODUCTION
...organization/management process of human resources, production, operations, marketing, distribution, and finances; risk management; ethics/legalistic management; international business; accounting, computers, and data processing. **3 cr.**

10-102-159 BUSINESS GIS
...technology and business applications, desktop GIS, commercial software, geocoding, spatial data collection and analysis; GIS in market research, location, routing, transportation, health care, agriculture, energy, and natural resources development. **2 cr.**

10-102-172 FINANCIAL STATEMENT ANALYSIS ...types of financial statements, methods of preparation and types of financial statement analysis, statement analysis and evaluation procedures for determining financial condition of organization, and forecasting and control. **3 cr.**

10-103-101 PC: OVERVIEW USING WORD/EXCEL ...absolute beginner's course on using a microcomputer, concepts and terminology, demonstration and practice on Windows/mouse functions, creating/printing word processing documents, and building/formatting spreadsheets. **1 cr.**

10-103-102 MICROSOFT OFFICE-WORD/ACCESS ...communicating via e-mail, Internet searches, creating, editing, and formatting Word documents, creating Access forms, and utilizing reports and queries on Access forms. **2 cr.**

10-103-103 MICRO BASICS MS OFFICE 1 ...introductory computer software packages and applications, basics of operating a computer, Windows concepts, mouse techniques, word processing using Word, creating spreadsheets and charts using Excel. **3 cr.**

10-103-104 COMPUTER: APPLICATIONS ...introduction to the microcomputer and its use in a medical environment; computer hardware and terminology; using software to create documents, database reports, spreadsheets, and graphs. **1 cr.**

10-103-109 MICRO BASICS MS OFFICE 2 ...computer applications, topics include database applications using Microsoft Access, creating presentation graphics using Microsoft PowerPoint, and using Netscape Navigator to access the World Wide Web Resources. **3 cr.**

10-103-111 MICRO: WINDOWS-INTRODUCTION ...Windows management (minimize/maximize/close/resize), document management (create, open, save, find file), help features, shortcuts, My Computer, and Explorer (format, folders/subfolders, move/copy/delete files). **1 cr.**

10-103-121 MICRO: WORD-INTRODUCTION ...word processing basics using Microsoft Word 2000 including creating, revising, formatting, and printing; sections, tabs, multiple-page numbering; manipulating text; and creating headers and footers. Requires Windows experience. **1 cr.**

10-103-122 MICRO: WORD-PART 2 ...advanced word processing features of Microsoft Word 2000 including merge, columns, tables, templates, styles, borders and clip art, Microsoft draw and WordArt, footnotes and endnotes, and creating a Web page. Requires strong introductory Word skills. **1 cr.**

10-103-131 MICRO: EXCEL-INTRODUCTION ...spreadsheet basics using Microsoft Excel 2000: creating/printing worksheets; formulas, functions, copy/move cells, manipulate rows/columns, generate charts. Requires Windows experience. **1 cr.**

10-103-132 MICRO: EXCEL-PART 2 ...functions of VLOOKUP and IF, date/time functions, templates, multiple worksheets, linking files through formulas, consolidating worksheets, charts and graphs, datamaps, databases, filters, data tables, and pivot tables. Requires strong introductory Excel skills. **1 cr.**

10-103-141 MICRO: ACCESS-INTRODUCTION ...database tables, relationships, queries, calculations, aggregate functions, form and report wizards, and compacting. Requires Windows experience. **1 cr.**

Occupational Support Course Descriptions

10-**103-151 MICRO: POWERPOINT-INTRODUCTION** ...data access pages using the Web, prepare overheads, handouts, and slide shows using Wizards, templates, Clipart, WordArt, animation, transitions, and hyperlinks. Requires Windows experience. **1 cr.**

10-**104-106 RETAIL SALES MANAGEMENT** ...leadership of retail industry employees in various selling and customer service activities; sales training, tracking, and analysis specifically for retail entities. **3 cr.**

10-**104-108 CREDIT PROCEDURES** ...consumer credit: charge account and service, installment, and residential mortgage; business credit: management, terms of sale, financial institutions, Dun and Bradstreet Inc., and financial statements; and the collection function: creditor rights, extensions and adjustments, and bankruptcy. **3 cr.**

10-**104-110 MARKETING PRINCIPLES** ...marketing management, market segmentation, market research, consumer behavior, product decisions and management, distribution, pricing, promotional decisions, and international marketing strategy planning. **3 cr.**

10-**104-123 PRODUCT INFORMATION** ...textiles: fiber finishes, fabrics, and product care and evaluation; non-textiles: plastics, metals, gems, leather products, wood products, and housewares. **3 cr.**

10-**104-124 MARKETING APPLICATIONS-PC** ...the use of Microsoft PowerPoint as a tool to create effective, professional-looking marketing presentations. **1 cr.**

10-**104-148 INTERNATIONAL MARKETING** ...tools necessary for the student to understand the risks, rewards, and the technical aspects of doing business in a global environment. **3 cr.**

10-**104-162 RETAIL TRENDS** ...learning merchandise forecasting and retail management concepts by analyzing consumer behavior and past trends, and applying knowledge to current and future market environments. **1 cr.**

10-**104-176 CONSUMER BEHAVIOR** ...motivation and personality, information processing, life styles, group influences, post-purchase behavior, and other behaviors related to marketing. **3 cr.**

10-**104-181 SELLING TECHNIQUES-ADVANCED** ...professional image, listening skills, style flexing, ethical stances, sales activity, organization, body language, computerized records, team selling, needs assessment, selling aids, sales proposals, negotiation, objectives, response, closing, follow-up activities. **3 cr.**

10-**104-191 CUSTOMER SERVICE MANAGEMENT** ...develop professional telephone etiquette, explore customer service work environments, identify and analyze customer service failures, resolve problems cost effectively, set complaint policies, and develop communication techniques to handle complaining customers. **3 cr.**

10-**104-192 MERCHANDISE MANAGEMENT** ...basic theories of merchandising applied to the current retail environment. **3 cr.**

10-**104-194 MERCHANDISING-VISUAL** ...display as a selling medium, appropriate use of props and fixtures in a display, use of elements and principles of design in displays, effective planning and lifestyle graphics. **2 cr.**

10-**104-197 MARKETING-APPAREL** ...review and analysis of the fashion channel of distribution; design, production, and distribution of textiles and apparel for men, women, and children; current domestic and global marketing trends. **3 cr.**

31-**104-313 RETAIL MERCHANDISING** ...characteristics of a small business, planning and organizing a new jewelry business, marketing and selling the jeweler's product or service, profit planning and control, and jewelry merchandising. **3 cr.**

10-**106-131 TRANSCRIPTION FUNDAMENTALS 1** ...using the Business English Language skills, software and machine transcription equipment, students will demonstrate fundamentals toward completing professional, mailable effective business documents. **3 cr.**

10-**106-132 TRANSCRIPTION FUNDAMENTALS 2** ...continued introduction to the use of transcribing equipment with computers to review spelling, word usage, international and Internet research, with emphasis on proofreading. **2 cr.**

10-**106-141 INFORMATION**

PROCESSING-LEGAL ...various computerized methods used to open new client files; and organizing and maintaining documentation necessary for computerized litigation, document creation, and law office administration. **3 cr.**

10-**106-145 KEYBOARDING** ...keyboarding at a personal productivity level, correct posture, touch typing on the alpha-numeric keyboard using an interactive software package running on a microcomputer. No experience required. **1 cr.**

10-**106-153 PROFESSIONAL PROFILE** ...workplace attributes such as attitude, goal setting, habits, and techniques for success and promotion; leadership and organizational skills; and diversity in the workplace. **3 cr.**

10-**106-157 OFFICE POLITICS** ...tactics necessary to compete on the job including political tendencies, a campaign to boost your career, blunders, outwitting people, controlling the use of politics, and practicing sensible and ethical politics. **1 cr.**

10-**106-160 MANAGEMENT SKILLS-OFFICE** ...office management processes and techniques that include planning, organizing, staffing, budgeting, controlling, and evaluating. **2 cr.**

10-**106-171 MEETINGS-ORGANIZING** ...all the steps of the meeting process from pre-meeting preparations to post-meeting follow-up; a layperson's approach to parliamentary procedures; for all types of meetings. **1 cr.**

30-**106-345 INFORMATION**

PROCESS-BASIC ...basics of Microsoft Windows 95 and Word 2000 for Windows: multi-tasking, group Windows, creating, saving, printing, editing, and basic formatting. **1 cr.**

10-**107-100 COMPUTER: PROGRAMMING-INTRODUCTION** ...basic techniques for developing computer programs to solve common business problems; includes logic, structure, flowcharting, comparing, looping, control breaks, variables, arrays, internal data representation, file processing, and testing procedures. **1 cr.**

10-**107-101 COMPUTER: JAVA-INTRODUCTION** ...write object-oriented programs with graphical user interfaces in Java; Basics, Data and Information Processing, Object-Oriented Programming, Graphical User Interfaces and Event-Driven Programming, Graphics and Networking. **3 cr.**

10-**107-103 COMPUTER: JAVASCRIPT-INTRODUCTION** ...how to use the JavaScript programming language to create interactive Web pages. **1 cr.**

10-**107-143 COMPUTER: RPG PROGRAMMING-ADVANCED** ...advanced RPG operation codes, subfile programming, data and parameter passing, and integration of control language (CL) commands in RPG programs. **3 cr.**

10-**107-144 INFORMATION**

TECHNOLOGIES-EMERGING ...current issues and trends in the computer science area; possible topics: the Internet, visual programming, multimedia, computer security and ethics, and client/server. **2 cr.**

10-**107-150 NETWORK MANAGEMENT/ TROUBLESHOOTING** ...use protocol information, client-server dialogs, utility programs and commands and a protocol analyzer to troubleshoot network problems, use SNMP and network management software to monitor and manage network devices. **3 cr.**

10-**107-154 INTERNET SECURITY/FIREWALLS** ...Network security, TCP/IP fundamentals, building Internet firewalls, and keeping your site secure. **3 cr.**

10-**107-158 MICRO HARDWARE-ADVANCED** ...advanced microcomputer hardware maintenance, troubleshooting, diagnosis, and repair. (Prerequisite: 10-107-162, Microcomputer Hardware) **3 cr.**

10-**107-159 MACINTOSH SYSTEMS MANAGEMENT** ...computer essentials, MacIntosh usage in business, operating system, directory structure, file management, peripherals, and future directions in MacIntosh computing. **3 cr.**

10-**107-173 MICRO PROGRAMMING C** ...the Turbo "C" and C++ integrated development environment to construct programs, data types, control structures; library and user defined functions; disk I/O; and dynamic memory allocation. **3 cr.**

Occupational Support Course Descriptions

10-**107-179 MICROCOMPUTER NETWORKING** ...installing, tuning, and documenting computer networks; how to maintain and troubleshoot networks; inter-networking and wide-area networks; and Novell NetWare network technology. **2 cr.**

10-**107-194 MICRO DOCUMENTATION** ...students plan documentation content and delivery methods; develop online, context sensitive, and written documentation, become familiar with ISO 9000 standards, package, PDF files, and create compiled help modules. **2 cr.**

32-**107-351 PC OPERATIONS-INTRODUCTION** ...keyboarding the alpha-numeric keyboard on computer, interactive software package, intro to Windows 95, Windows components, laptop computers in shop, and on-line with Internet. **1 cr.**

10-**109-162 HOSPITALITY-PURCHASING** ...marketing distribution systems, purchasing organization/administration, specifications, ordering process, receiving/storage, fresh produce, convenience foods, processed food/groceries, refrigerated/frozen foods, alcoholic/nonalcoholic beverages, nonfood purchases. **3 cr.**

10-**109-163 BEVERAGE MANAGEMENT** ...beverage industry; beverage product classifications; responsible beverage service; bar equipment and organization; maintaining clean and sanitary facilities; staffing, training and supervising beverage employees; promotions planning; budgeting and cost controls. **3 cr.**

10-**109-166 RESTAURANT OPERATIONS MANAGEMENT** ...restaurant operations, layout and design, cost-control, types of service, menu engineering, marketing, production and service staffing, guest and community relations, quality control, and evaluation through management reports, production/service. **3 cr.**

10-**110-122 CREDITOR/DEBTOR RELATIONS** ...legal rights of creditors and debtors, collection of outstanding debts, execution of judgments, small claims court, bankruptcy procedures, and filing bankruptcy petitions and schedules. (Prerequisite: 10-110-101, Paralegal-Intro; Corequisite: 10-102-150, Business Law) **3 cr.**

10-**110-168 PARALEGAL CRIMINAL PROCEDURES** ...substantive and procedural criminal law, the role of paralegals in both the prosecution and defense of criminal actions, emphasis on investigations and preparation of legal documents. **3 cr.**

10-**110-169 INDIAN LAW** ...Wisconsin Indians, tribal sovereignty, federal/Indian relations, tribal governments, tribal courts, treaty making, removal/reservation life, assimilation, reorganization, termination, self-determination, gaming, and other contemporary issues. **3 cr.**

10-**111-104 PRODUCT RENDERING** ...media and materials, product analysis, orthographic/oblique/isometric/perspectives, computer, package label, color perception, air brush textures, and applied technologies to product renderings. **3 cr.**

10-**111-110 MACINTOSH IMAGE EDITING-ADVANCED** ...photoshop's tool box, layers, paths, channels, scans, color separations, photo retouching. Web pages, Web graphics, Web safe colors, HTML code, Adobe Dimensions, image mapping and interactive capabilities of software. **3 cr.**

10-**111-124 MARKETING PRESENTATIONS** ...develop page layout concepts utilizing document files, tools, guides, objects and shapes, text, colors, style sheets, images, master pages; managing output for printing; and apply copy elements. **4 cr.**

10-**111-125 GRAPHIC REPRODUCTION TECHNIQUES** ...basic process of reproducing images using offset lithography including electronic imaging, film stripping, plates, press operation, estimating, and production planning. **3 cr.**

31-**111-310 JEWELRY DESIGN/ILLUSTRATION** ...basic drawing skills, use of templates, shading, drawing stones, and basic jewelry design; designing an original piece of jewelry from concept through presentation and promotional illustration. **2 cr.**

10-**160-110 HEALTH CARE OVERVIEW** ...U.S. health care system beliefs and evolution, professionals and technologies, financing, outpatient and inpatient facilities, managed care, marketing, integrated delivery, U.S. system compared to others, future of health systems, field study. **3 cr.**

Occupational Support Course Descriptions

10-160-121 MEDICAL BUSINESS/LAW ...code of ethics, ethical questions in the medical setting, patient's rights, law introduction, lawyers and clients, judges, courts, juries, civil action, appeal, out-of-court settlements, contract laws, wills, trusts. **1 cr.**

10-160-143 MEDICAL PRACTICE PROCEDURES ...professional duties, ethical codes, medical scheduling, admissions, third-party payer processes, managed care procedures, empathy, respect for diversity, medical records, confidentiality, information systems, legal regulation, office medical administration. **3 cr.**

10-160-144 HEALTH CARE BUSINESS TRENDS ...the current state and direction of health care business; changes in provider services, patient expectations, costs, financing, local, state, federal programs, regulation, patient information and service expections, and local challenges. **3 cr.**

10-160-151 MANAGED HEALTH CARE RELATIONSHIPS ...the financing of health care, managed care participants and products, integrated systems, organization structure, provide networks, purchase cost containment, quality of care, regulation, and accountability. **2 cr.**

10-182-154 MANAGEMENT RESOURCE-STRATEGY ...explore the relationship of existing and emerging technologies for aligning resources with the strategic plan, configuring and integrating operating processes to support the strategic plan, and implementing change. **2 cr.**

10-182-155 MASTER PLANNING-RESOURCES ...explore processes used to: develop sales and operations plans; identify and assess internal and external demand and forecasting requirements; and develop achievable master schedule, consistent resource contraints. **2 cr.**

10-196-102 WORKSKILLS ...perform interaction principles; seek out information; prepare and deliver a clear message; respond to workplace changes; cope with emotionally charged situations; help your team; and handling emergencies and temptations. **2 cr.**

10-196-143 DIVERSITY-WORKPLACE ...personal values; behaviors influenced by gender, race, ethnicity, and culture rather than objective observation of skills; the value of diversity to self and organizations. **1 cr.**

10-196-189 PROBLEM SOLVING/TEAM BUILDING ...group dynamics, running productive meetings, and conflict resolution; problem-solving models; practice models in practical work and real-life applications. **3 cr.**

30-196-348 POWER HOUSE-SUPERVISION ...the role of the supervisor in current industrial settings, and review of the duties, skills, responsibilities, and challenges of supervision. **1 cr.**

10-303-180 NUTRITION-BASIC ...dietary guidelines, nutrients, carbohydrates, proteins, fats, alcohol, vitamins, minerals, water, digestion, absorption, nutrient metabolism, weight control, and oral health and disease diet. (Prerequisite: 10-806-163, Chemistry-Bio Organic) **2 cr.**

30-307-318 CHILD/FAMILY DAYCARE ...child growth and development; provider-child-parent interactions; availability and use of community resources; family daycare business; and basic nutrition, health, and safety requirements. 40 hour course. (90% attendance required) **1 cr.**

31-413-359 ELECTRICAL INTERNSHIP ...72 hours of work experience focused on gaining varied work experiences, maintaining acceptable attendance, adhering to policies and procedures, accepting responsibility, and working professionally. **1 cr.**

10-419-170 FLUID POWER ...an introductory study of hydraulic and pneumatic principles as applied to system design: circuit sizing and design, fluid power components, operations, and applications. **3 cr.**

31-419-311 HYDRAULICS-APPLIED ...hydraulic schematics, drive systems, hydraulic system diagnosis/troubleshooting, hydraulic circuits, piping, fluid mechanics, seals, packings, hydraulic component operation, and accumulators. **2 cr.**

10-442-160 WELDING TECHNOLOGY 1 ...ferrous and non-ferrous metals, oxy-acetylene, gas tungsten arc, gas metal arc, shielded metal arc, drilling and threading. **3 cr.**

31-442-331 WELDING-ELECTRICITY ...basic welding for electrical trades. Ferrous and non ferrous metals, oxyacetylene cutting, gas metal arc, and shielded metal arc. **1 cr.**

Occupational Support Course Descriptions

32-442-352 WELDING-METAL WORKING PROCESSES ...welding and machine shop safety, blueprint reading, basic arc and oxyacetylene welding techniques, precision measuring tools, layout, use of hand tools, band saw, drillpress, lathe, milling machine. **2 cr.**

10-503-181 NICET SPRINKLERS-ADVANCED ...the NICET certification process as that relates specifically to Level II and Level III certification in the Fire Protection subfield of automatic sprinkler system design. (Prerequisite: 10-503-180, NICET-Basic) **2 cr.**

10-503-182 NICET HAZARDS-ADVANCED ...how to successfully complete the exam requirements for NICET certification at Levels 2, 3, or 4 in the subfield of special hazards systems design. (Prerequisite: 10-503-180, NICET-Basic) **2 cr.**

10-503-183 NICET ALARMS-ADV ...the NICET certification process and content as that relates to Level II and Level III certification in the NICET Fire Protection subfield of fire alarm systems. **2 cr.**

10-504-116 CRIMINAL JUSTICE-INTRODUCTION ...criminal justice, crime picture, criminal law, theories of crime, history of policing, police management, legal aspects, courts, corrections, correction facilities. **3 cr.**

10-504-151 NARCOTICS/VICE INVESTIGATION ...historical development, organized crime, vice investigations, laws, types of drug enforcement, role of informants, clandestine labs, conspiracies, drug testing, asset seizure and forfeiture, and coordination of a drug investigation. **3 cr.**

10-504-171 CORRECTIONS INTERNSHIP ...training in criminal and juvenile justice settings under supervised observation and participation. **2 cr.**

10-504-174 EVOC/FIRST RESPONDER ...emergency patrol vehicle use and emergency first aid at the scene. (Prerequisite: 10-504-175, Defense/Arrest Tactics) **2 cr.**

10-504-175 DEFENSE/ARREST TACTICS ...subject control principles: theory, body mechanics, techniques, and simulation. (Prerequisite: Accepted into Police Science) **1 cr.**

10-504-176 LAW ENFORCEMENT INTERNSHIP ..."hands-on" law enforcement phases, monitored by an agency-approved police officer and college instructor. **2 cr.**

10-504-177 FIREARMS TRAINING ...maintenance of weapon, function and design of weapon, equipment, shooting fundamentals, drawing, recovery, loading and unloading, reloading, firearms safety, malfunctions, multiple adversary engagement, tactical barricade, tactical close combat, unsupported shooting, dim light shooting, flashlight assisted shooting, rollover prone, deadly force reactions, immediate cover, and lateral movement. (Prerequisite: 10-504-175, Defense/Arrest Tactics) **1 cr.**

10-504-178 SUBJECT CONTROL-PRINCIPLES ...subject control principles (POSC), psychomotor skill development, techniques, and simulation. (Prerequisite: Accepted into Police Science) **1 cr.**

10-504-179 JAIL HEALTH/FIRE SAFETY ...cardiopulmonary resuscitation, first aid, inmate health care provisions, health care record maintenance, medication control, search/inmate rescue, inmate evacuation, fire suppression/detection/alarm responses, control ignition, and fuel sources. **1 cr.**

10-504-182 POLICE TRAFFIC RADAR ...radar speed and enforcement, history and theory, stationary operation, moving operation, anomalies, visual speed and range determination, case law, field exercises, moot court, testimony/demeanor, and operation. **2 cr.**

10-506-185 ENVIRONMENTAL/FIELD STUDY ...the work and workflow of a production laboratory, business organization and structure, job assignments, and occupational and experience reports. **3 cr.**

10-508-150 CLINICAL-EXTENDED ...the clinical applications of dental hygiene to prepare for CRDTS examination. **1 cr.**

10-508-160 PERIODONTAL THERAPY-ADV ...medical/dental history, patient/operator positioning, instrumentation principles, instrument design/sharpening, sonic/ultrasonic scalers, selective/abrasive polishing devices, patient assessment, treatment planning, case management, root planing, etiology, plaque control, and chemotherapeutic agents. **2 cr.**

10-508-172 DENTAL HYGIENE-NATIONAL BOARD REVIEW ...information pertinent to the Dental Hygiene National Board Examination, study strategies, and test-taking skills. **2 cr.**

General Education Course Descriptions

10-**510-136 NURSING PHARMACOLOGY-APPLIED** ...basic concepts; therapeutic classifications; characteristic drug groups; influences on drug effects; application of nursing process; principles of therapy; drug interactions; legal, ethical, economical issues; and OTC drugs. **2 cr.**

10-**510-165 MEDICAL TERMINOLOGY** ...spelling, pronunciation, definition, and abbreviation application; word roots, prefixes and suffixes, and anatomical structure. **3 cr.**

10-**513-150 PHLEBOTOMY** ...anatomy/physiology of cardiovascular system, safety/standard precautions, ethics and professionalism related to role of the phlebotomy in patient care. Venipuncture and capillary specimen collection will be demonstrated and practiced. **2 cr.**

10-**515-162 CLINICAL SIMULATION REVIEW 1** ...preparation for the testing processes utilized by the National Board for Respiratory Care; all testing processes will be reviewed utilizing appropriate content. **1 cr.**

10-**515-163 CLINICAL SIMULATION REVIEW 2** ...the diagnosis, management, and treatment received by cardiopulmonary patients. **1 cr.**

10-**524-146 SPORTS MEDICINE/ATHLETIC TRAINING** ...the basic principles involved in the prevention, treatment, and rehabilitation of athletic injuries. **3 cr.**

10-**524-151 FITNESS TESTING/PRESCRIPTION** ...concepts of "wellness", "health", and "fitness"; nutrition and weight management; stress management; cigarette smoking; impact of chronic conditions; and development of fitness programs for special populations. (Prerequisites: 10-806-182, Anatomy/Physiology 1; 10-806-187, Anatomy/Physiology 2) **2 cr.**

10-**530-131 HEALTH CARE-QUALITY** ...quality management concepts; quality improvement processes; programs and procedures as they relate to medical records; utilization review, risk management, and other healthcare evaluation activities and requirements. **2 cr.**

10-**601-150 HVAC/R INTERNSHIP** ...applications of theory, skills, and techniques in the HVAC/R profession. **3 cr.**

10-**605-110 TECHNICAL SKILLS 1** ...understanding and sketching blueprints and electrical drawings; utilizing software tools in development of drawings; electrical wiring standards; wiring from a schematic. **1 cr.**

10-**605-120 TECHNICAL SKILLS 2** ...soldering and desoldering; wire splicing techniques; wiring and describing use of basic electromechanical devices; fuse, wire, and overload sizing. **1 cr.**

10-**605-138 DIGITAL CONCEPTS 2** ...control applications using ladder logic control, input devices, relay, timing, counter control circuits, and programmable logic control (PLC). (Prerequisite: 10-605-116, Digital Concepts 2) **3 cr.**

10-**605-195 INTERNSHIP** ...training within an appropriate setting by actual work experience and observation. **3 cr.**

10-**606-101 COMPUTER AIDED DRAFTING-ELECTRONIC TECHNICIANS** ...basic DOS commands, AutoCAD commands, ladder logic diagrams, control panels, control cabinets, circuit boards, and hydraulic/pneumatic circuits. **3 cr.**

10-**606-109 DRAFTING 1-TECHNICAL** ...drafting tools and equipment, lettering and engineering documentation, geometric construction, orthographic projection, auxiliary views, section views, and dimensioning as they pertain to both mechanical and architectural drafting. **2 cr.**

10-**606-112 ENGINEERING APPLICATIONS** ...basics of a computer system, computer terminology, Windows NT, Microsoft Word, Microsoft Excel, and AutoCAD. **1 cr.**

10-**606-113 CAD (COMPUTER AIDED DRAFTING)** ...computer aided drafting using AutoCAD software focusing on template settings; creating and manipulating layers; basic drawing, editing, and inquiry commands; blocks and attributes; and plotting. (Prerequisites: 10-606-112, Engineering Applications; 10-606-119, Sketching-Technical) **2 cr.**

10-**606-115 CAD (COMPUTER AIDED DRAFTING)** ...entry level computer-aided graphics with AutoCAD software; using basic and advanced drawing, display, editing, dimensioning, and plotting commands. **3 cr.**

General Education Course Descriptions

10-606-116 CAD (COMPUTER AIDED DRAFTING)-INTRODUCTION ...CAD terminology, drawing preliminaries, basic inquiry and setting commands, layer setting and manipulation, basic drawing and display commands, basic edit commands, and plotting. **1 cr.**

10-606-117 CAD (COMPUTER AIDED DRAFTING)/DESIGN 1 ...drawing and display commands, edit commands, plotting, blocks, and attributes. (Prerequisite: 10-606-116, Computer Aided Drafting-Intro) **1 cr.**

10-606-118 CAD (COMPUTER AIDED DRAFTING)/DESIGN 2 ...CAD concepts, system operations, and basic command operations; advanced commands involving data base, display, editing, dimensioning, and plotting to create engineering drawings. **1 cr.**

10-606-119 SKETCHING-TECHNICAL ...graphically describe objects without CAD system or mechanical drawing aids; fundamental components of design process: lettering, geometric construction, orthographic projection, isometric sketching, section views, auxiliary views, and dimensioning. **2 cr.**

10-606-160 MODELING-3D PARAMETRIC ...terminology, software operation & interface, creating basic models, casting and forging models, revolved and swept features, thin walled parts, part configurations, assemblies, orthographic drawings. thin walled parts, part configurations, assemblies, orthographic drawings. **3 cr.**

10-606-195 MECHANICAL DESIGN INTERNSHIP ...the application of theory, skills, and techniques in the civil engineering profession. **3 cr.**

10-607-107 SURVEY/SITE DEVELOPMENT ...transit/level use, note keeping, bearings and azimuths, distance measurement, contour maps, stadia, legal descriptions, public land subdivision, construction surveys, site plans, zoning ordinances, easements, and parking lot/street layout. **3 cr.**

10-614-120 CAD-ARCHITECTURAL ...entry-level computer-aided graphics with AutoCAD software, using basic and advanced architectural drawing, display, editing, dimensioning, and plotting commands. (Prerequisite: 10-614-116, Architectural Computer Applications; 10-614-115, Architectural Drafting Principles) **2 cr.**

10-614-126 ARCHITECTURAL MECHANICAL SYSTEMS ...basic math procedures, measurement, architect's scale, pictorial drawings, freehand sketching, alphabet of lines, orthographic projection, working drawings, plans, elevations, title block, drawing conventions, building materials, specifications, codes, and building systems. **4 cr.**

10-614-172 MODELS-MACHINE ...working models, preliminary through final prototype: plastic mechanisms, motions, characteristics, combinations, mechanical advantages, fits, clearances, threads, gears, levers, cams, motors, fasteners, and methods. (Corequisite: 10-614-114, Model Building-Intro) **3 cr.**

10-614-175 ARCHITECTURAL MODELS ...basic modeling processes, construction methods, planning considerations, and finishing techniques; fabrication of massing models and mock-ups of buildings, structural components, wall sections, and window details. **2 cr.**

10-614-176 MODEL FINISHING ...industrial finishes, textures and methods of applications commonly used in the profession, variety of finishes using airbrushes, spray guns and brushes, application of several industrial finishes. **3 cr.**

10-614-195 MODEL BUILDING INTERNSHIP ...the application of theory, skills, and techniques in model building. **3 cr.**

10-620-195 INTERNSHIP ...training within an appropriate setting by actual work experience and observation. **3 cr.**

10-623-144 STATISTICAL PROCESS CONTROL ...basic statistics, statistical inference, normal distribution, simple probability, variable and attribute control charts, and process capability. **3 cr.**

10-623-197 QUALITY ASSURANCE INTERNSHIP ...application of theory, skills, and techniques in the quality assurance profession. **3 cr.**

General Education Course Descriptions

COMMUNICATION

10-801-162 COPYWRITING-INTRODUCTION ...writing for advertising and public relations, writing style, principles of advertising copy, editing and rewriting, strategy, copy format, layouts, copy for newspapers, flyers, brochures, magazines, and radio. **3 cr.**

10-801-170 WRITING-PROTECTIVE SERVICES ...rationale and methods of law enforcement reporting, principles of effective report writing, organizing reports, and writing operational law enforcement reports based on case studies. (Prerequisite: 10-801-195, Written Communication) **2 cr.**

10-801-175 ENGLISH COMPOSITION 1 ...grammar, mechanics, writing process, essay parts, paragraph types, audience, purpose, paragraph development, topic sentences, thesis statements, critical reading and writing, MLA/APA documentation, research techniques, in-class/timed writing, and revision skills. **3 cr.**

10-801-195 COMMUNICATION-WRITTEN ...the principles of business and technical writing, ethics and cultural considerations, the writing process, document design techniques, memorandums, business letters, job-seeking skills, instructions, sentence definition, summary, and short reports. **3 cr.**

10-801-196 ORAL/INTERPERSONAL COMMUNICATION ...the communication process, interpersonal relationships, self-concept, perception, language, nonverbal messages, cultural differences, listening, group interaction, and public communication. **3 cr.**

10-801-197 REPORTING-TECHNICAL ...principles of technical writing, research, documentation, graphics, extended definition, technical description, progress report or evaluation report, proposal, technical presentation. (Prerequisite: 10-801-195, Communications-Written) **3 cr.**

10-801-198 SPEECH ...benefits; elements; listening; evaluating; adapting; clarifying, proving, and adding interest; ethics; audio/visual aids; organizing; effective individual delivery; informing; persuading; demonstrating; marking occasions; group presentations. **3 cr.**

31-801-385 COMMUNICATING-WRITING ...writing techniques, memos, letters, descriptions, instructions, and the job-seeking process. **1 cr.**

31-801-386 COMMUNICATING-INTERPERSONAL ...interpersonal communication, including the function of interpersonal communication, perception, self-concept, customer service and conflict resolution, language, non-verbal communication, listening techniques, telephones and customer service. **1 cr.**

31-801-387 GRAMMAR-BUSINESS APPLICATIONS ...words commonly confused, spelling, sentence structure, punctuation, agreement, pronoun usage, parallelism and modifiers. **1 cr.**

MATHEMATICS

10-804-101 MATH-BUSINESS ...percentage, interest, promissory notes, borrowing, credit charges, payroll records and deductions, property tax, sales tax, inventory valuation, depreciation, mark-up, cash and trade discounts, stocks and bonds, and financial statement analysis. **3 cr.**

10-804-120 MATH-TECHNICAL ALGEBRA ...operations and properties, expressions and equations, inequalities, real numbers, polynomials, linear sentences, radicals, quadratics, and functions. **3 cr.**

10-804-130 ALGEBRA/TRIGONOMETRY ...numerical computation/calculators; elementary algebra concepts; linear equations and word problems; functions; graphing; geometric concepts; right triangle trigonometry; vectors; oblique triangles; arc length; linear/angular velocity. **3 cr.**

10-804-131 ALGEBRA-INTERMEDIATE ...factors/factoring, fractions/fractional equations, systems of linear equations, exponents and radicals, quadratic equations, parabolas, ratio proportion, and variation, exponential and logarithmic functions. **3 cr.**

General Education Course Descriptions

10-804-132 GEOMETRY-ANALYTIC
...trigonometric functions, graphs, trigonometric identities and equations, straight lines, circles, parabolas, and ellipses; inequalities/linear programming; introductory statistics and probability. **3 cr.**

10-804-150 MATH 1-TECHNICAL
...numerical computation/calculations, algebra concepts, linear equations, functions, graphing, geometric concepts, right triangle trigonometry, vectors, factoring, algebraic fractions, systems of linear equations, quadratic equations, oblique triangles, arc length, linear/angular velocity. **5 cr.**

10-804-151 MATH-DATA PROCESSING LOGIC ...algorithms, percent applications, interest applications, inventory, depreciation, payroll, hexadecimal arithmetic, flow diagrams, sets, logic, and decision tables. **3 cr.**

10-804-152 MATH-PROTECTIVE SERVICES ...review of fractions and decimals, percentages, use of the traffic template, accident scenes, statistics, order of operations, and formula manipulation. **3 cr.**

10-804-160 MATH 2-TECHNICAL
...trigonometric functions and graphs; exponential/logarithmic functions; complex numbers; exponents and radicals; straight lines, circles, parabolas, and ellipses; trigonometric identities and equations; ratio, proportion, and variation; introductory statistics/probability. **4 cr.**

10-804-161 MATH-DATA PROCESSING ALGEGRA/STATISTICS ...algebraic expressions, equations, functions, systems of equations, determinants, linear programming, presentation of statistical data, measures of central tendency and dispersion, normal distribution, probability, * and chi-squares. (*alternative or optional topics) **3 cr.**

10-804-170 MATHEMATICS 3-TECHNICAL CALCULUS
...derivatives of algebraic functions; applications to velocity, rate, and maximum-minimum problems; integration and application to moment of inertia, pressure, and work; and applications to technology: electrical, civil, and mechanical. **4 cr.**

31-804-301 MATH 1-TRADES
...mathematical applications of fractions, decimals, ratios, proportions and percent, linear, area and volume measurement, practical plane geometry and solid figures. This course is required for many trades and technical programs. **2 cr.**

31-804-302 MATH 2-TRADES
...numerical computation/calculations, algebra concepts, word problems, ratio and proportion, scientific notation, right triangle trigonometry, oblique triangles. **1 cr.**

31-804-303 MATH 3-TRADES
...algebra applications, geometry, right angle trigonometry, and compound trigonometry. **1 cr.**

31-804-310 ALGEBRA-TRADES
...signed numbers, order of operations, scientific notation and metric prefixes, calculator operations, algebra/formula evaluation, Ohm's Law, combination circuits, efficiency, resistance and size of wire, trigonometry for alternating current electricity. **2 cr.**

31-804-311 ALGEBRA-ELECTRICITY
...metric units of measurement and the scientific calculator, algebra and formulas for electrical circuits, series circuits, parallel circuits, combination circuits. **1 cr.**

31-804-321 TRIGONOMETRY-ELECTRICITY ...trigonometry for alternating current electricity, trigonometry for inductance and transformers, trigonometry for capacitance, trigonometry for alternating current power. (Corequisite: 31-804-311, Algebra-Electricity) **1 cr.**

31-804-385 MATHEMATICS-COMPUTER APPLICATION ...basic mathematics, perceptual motor ability, basic computer terminology and applications, pre-programmed microcomputer programs, and applications of computers for the prospective electrician. **2 cr.**

GENERAL EDUCATION-NATURAL SCIENCE

10-806-115 PHYSICS-RCP
...measurement, properties of matter, pressure, density, static fluids, fluids in motion, heat, temperature, gas laws, force, work, energy, basic mathematical and algebraic operations, exponents, radicals, logarithms, graphing, optics. **3 cr.**

General Education Course Descriptions

10-806-116 PHYSICS-PTA ...measurement, metric system, static forces, motion, friction, torque, equilibrium, mass, rotational motion, work, energy, power, machines, mechanical advantage, efficiency, solids/fluids properties, stress-strain, pressure, heat, temperature, light, electricity, and magnetism. **4 cr.**

10-806-131 MATERIALS SCIENCE ...classification and identification; mechanical properties; microscopic and spectrographic analysis of materials; heat treatment procedures of hardening, tempering, and annealing; surface treatment of steels; and effects of alloys on metals. **3 cr.**

10-806-150 PHYSICS 1-TECH ...measurement, motion, force, work, power, and energy; impulse and momentum; vectors and vector analysis; rotational mechanics; and rotational motion. **3 cr.**

10-806-151 SCIENCE-TECHNICAL FOR POLICE ...weights, measures, mechanics, sound, light, and electricity. (Prerequisite: 10-804-152, Math-Protective Services) **3 cr.**

10-806-155 CHEMISTRY-BASIC ...English and metric system, classification of matter, properties of matter, atomic structure, chemical bonding, nomenclature, quantitative compounds, chemical equations, stoichiometry, gas laws, water, solutions, acids/bases, equilibrium, oxidation/reduction, radioactivity, DNA, and biotechnology. **4 cr.**

10-806-160 PHYSICS 2-TECH ...properties of matter, heat, sound, light, electricity, and magnetism. **3 cr.**

10-806-163 CHEMISTRY-BIOORGANIC ...water/polarity, acids/bases, equilibrium, hydrocarbons, alcohols, amines, aldehydes/ketones, carboxylic acids, proteins, enzymes/vitamins, carbohydrates, lipids, energy, hormones, neurotransmitters/drugs, homeostasis, DNA/RNA, protein synthesis, and biotechnology. **3 cr.**

10-806-165 CHEMISTRY-INTRODUCTION ...measurement systems, lab safety, atomic structure/bonding, water solutions, acids/bases, equilibrium, redox, radioactivity, inorganic/organic nomenclature and reactions, overview of organic functional groups, survey of biochemistry and biotechnology. **5 cr.**

10-806-171 METALLURGY-PHYSICAL ...hardness/tensile/compression testing, abrasion resistance, metal classification/identification, metal strength/ductility, nondestructive testing procedures, carbon steel annealing, steel surface treatment, alloy effects, and metal analysis. **3 cr.**

10-806-180 ANATOMY/PHYSIOLOGY ...the human body as an integrated structural and functional unit including all body systems, cell structure, and physiology; dissection of fresh and preserved material and a human cadaver examination. **4 cr.**

10-806-182 ANATOMY/PHYSIOLOGY 1 ...anatomical structure, cytology, histology, integumentary system, membranes and glands, skeletal and articular systems, nervous system, special senses, and endocrine system. **3 cr.**

10-806-183 MICROBIOLOGY ...history of microbiology, microbial cellular structure and morphology, microbial isolation and identification; major bacterial, viral, and fungal diseases, basic immunology, prevention/control of infectious diseases; microbiology of oral cavity. **4 cr.**

10-806-185 PHARMACOLOGY-DENTAL HYGIENIST ...principles of pharmacology, regulation and drug standards, specific drug groups, drug interactions, abuse, misuse, and adverse reactions, pharmaceutical management of drugs, oral disease entities and drugs used to treat them. (Prerequisite: 10-806-183, Microbiology) **2 cr.**

10-806-187 ANATOMY/PHYSIOLOGY 2 ...the muscle system, digestive system, metabolism, circulatory system, lymphatic system, respiratory system, urinary system, body fluids and electrolytes, acid-base balance, reproductive system, and genetics. (Prerequisite: 10-806-182, Anatomy/Physiology 1) **3 cr.**

10-806-188 ANATOMY/PHYSIOLOGY 2-PTA'S ...the muscle system, articulations, digestive system, circulatory system, lymphatic system, respiratory system, urinary system, and reproductive system. (Prerequisite: 10-806-182, Anatomy/Physiology 1) **3 cr.**

General Education Course Descriptions

10-806-189 PHYSIOLOGY-CARDIOPULMONARY/RENAL ...general physiology; an in-depth analysis of: ventilatory mechanics, gas exchange and transport, and acid-base balance; neurological and chemical control of respiration; fluid and electrolytes; and V/Q relationships. **4 cr.**

10-806-194 MICROBIOLOGY ...microbial history, morphology, physiology; biochemical reactions of microbes; methods for identification; infectious diseases; prevention of infectious microbial spread; and isolation techniques for microorganisms. **3 cr.**

10-806-197 PATHOPHYSIOLOGY ...alterations in the human body caused by pathologic processes and the body's adaptation to pathology; synthesizing pathophysiologic concepts to understand rationale for diagnostic and therapeutic interventions. **3 cr.**

31-806-312 ANATOMY/STRUCTURE-FUNCTION ...human body systems, structural formation. **2 cr.**

32-806-353 SCIENCE-AUTOMECHANICS ...measurement systems, properties of matter, pressure, heat, gas laws, thermodynamics, forces, work, power, energy, linear motion, velocity, acceleration, rotational motion, torque, power transmission, simple machines. **2 cr.**

31-806-354 SCIENCE-WOOD TECHNICS ...measurement systems, problem solving methods, properties of matter, forces, energy, work, power, simple machines, pressure, heat, electricity, and sound. **2 cr.**

GENERAL EDUCATION-SOCIAL SCIENCE

10-809-190 HUMAN GROWTH/DEVELOPMENT ...defines human development; examines theories; heredity and environmental effects; prenatal development and birth; evaluates biosocial, cognitive psychosocial development through the life span; aging, death, and dying. **3 cr.**

10-809-195 ECONOMICS ...scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment, and global economic issues. **3 cr.**

10-809-196 SOCIOLOGY-INTRODUCTION ...basic concepts of sociology: culture, socialization, group behavior, deviance, multiculturalism, social institutions (family, government, economics, religion and education), social stratification, and globalization. **3 cr.**

10-809-197 SOCIETY-AMERICAN CONTEMPORARY ...issues, structures, processes, and trends related to concepts, principles, and theories which sociologically explicate family, religion, education, work, government, and the media. **3 cr.**

10-809-198 PSYCHOLOGY-INTRODUCTION ...involves survey of theoretical foundations of human behavior such as sensation and perception, motivation, emotions, learning, personality, psychological disorders, therapy, stress, and human diversity in personal, social and vocational settings. **3 cr.**

10-809-199 PSYCHOLOGY-HUMAN RELATIONS ...decision-making, conflict resolution, learning strategies, growth and adjustment, social psychology, diversity, motivation, psychological theories and disorders, stress, career analysis, lifespan development, and personal/professional relationships. **3 cr.**

31-809-301 SOCIAL SCIENCE SURVEY ...motivation, work structure, process and trends, conflict resolution, technology and economics, issues of diversity, sociological and economic principles, and personal/professional relationships. **2 cr.**

10-890-101 CRITICAL THINKING-PHILOSOPHY ...critical and creative thinking, problem solving, perception, believing and knowing, language as a thinking tool, concepts, meaningful patterns, facts, inferences and judgements, arguments and reasoning. **3 cr.**

10-890-150 CAREER DEVELOPMENT ...work attitudes, exploring entry-level career choices, determining office careers, applying for a job, getting along on the job, and setting goals. **2 cr.**

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Index

Wisconsin Technical College System

APPLICATION *for* ADMISSION

INSTRUCTIONS FOR COMPLETING THE APPLICATION FOR ADMISSION

This application form is the first step toward admission in any program in the Wisconsin Technical College System. Once the completed form and appropriate fee have been submitted to the college of your choice, the college will send you further information on requirements or procedures.

GENERAL INSTRUCTIONS
- Complete all sections of the form.
- Please print clearly.
- Consult the catalog of the college of your choice for application dates, specific program information and other details.
- If you wish to apply for admission to more than one Wisconsin Technical College, submit a separate application form and application fee to each college.
- Apply early!

APPLICATION FEE
- Attach the $30 nonrefundable application fee to each form mailed to the college(s) of your choice. Send a check or money order made out to the college.
- The $30 fee per college is a one time only fee.
- If you apply to more than one college, you must attach a $30 application fee to each application form.
- Do not send cash.

TRANSCRIPTS
- Request official copies of all academic transcripts, including high school, GED, HSED, college or university. Contact each institution and ask to have your official transcripts mailed directly to the Admissions Office of the college(s) to which you are applying.
- If you are still enrolled in high school, send a transcript of the courses you have completed along with a list of the courses to be taken prior to graduation.

TESTING / ASSESSMENT
- Many Wisconsin Technical Colleges require testing for acceptance into specific programs. Test results are generally used to assist in placing you in courses and/or programs where you can succeed academically.
- If you have taken the ACT or SAT, please send your score report to the college.
- Contact the college to which you are applying for details regarding their testing requirements.
- Accommodations are available for students with special needs.

Disclosing Your Social Security Number: The Wisconsin Technical College System may request and use your social security number for record keeping and statistical purposes related to auditing, enforcing and evaluating Federally-supported education programs (Federal law 20 U.S.C. § 1232g (1998)). You are required to provide your social security number if you are, or will be, applying for financial aid. If you will not be applying for financial aid, then providing your social security number is optional. However, there may be a delay associated with processing your application while an alternate number is assigned.

ADMISSIONS OFFICES
Apply to the College(s) of your choice

Blackhawk Technical College
Office of Admissions
6004 Prairie Road, PO Box 5009
Janesville, WI 53547
608/758-6900
608/757-7710 TTY

Chippewa Valley Technical College
Office of Admissions
620 West Clairemont Avenue
Eau Claire, WI 54701-6162
715/833-6246 or 800/547-2882
715/833-6487 TTY

Fox Valley Technical College
Office of Admissions
1825 North Bluemound Drive
Post Office Box 2277
Appleton, WI 54913-2277
920/735-5645 or 800/735-3882
920/735-4891 TTY

Gateway Technical College
Office of Admissions
3520 30th Avenue
Kenosha, WI 53144-1690
414/656-6900 Ext. 236
414/656-8960 TTY
414/656-6909 FAX

Lakeshore Technical College
Office of Admissions
1290 North Avenue
Cleveland, WI 53015
920/458-4183 or 888/ GO TO LTC
920/693-8956 TTY

Madison Area Technical College
Office of Admissions
3550 Anderson Street
Madison, WI 53704
608/246-6205 or 800/322-6282
608/246-6663 TTY

Mid-State Technical College
Office of Admissions
500 32nd Street North
Wisconsin Rapids, WI 54494-5599
715/422-5444
715/422-5456 TTY
715/422-5440 FAX

Milwaukee Area Technical College
Office of Admissions
700 West State Street, S101
Milwaukee, WI 53233-1443
414/297-MATC or 800/720-MATC
           (outside 414)
414/297-8404 TTY
414/297-7708 FAX

Moraine Park Technical College
Office of Admissions
PO Box 1940
235 North National Avenue
Fond du Lac, WI 54936-1940
920/924-3408 or 800/472-4554
920/929-2109 TTY
920/924-3421 FAX

Nicolet Area Technical College
Office of Admissions
Post Office Box 518
Rhinelander, WI 54501-0518
715/365-4451 or 800/544-3039
715/365-4515 TTY

Northcentral Technical College
Office of Admissions
1000 West Campus Drive
Wausau, WI 54401-1899
715/675-3331
715/675-6341 TTY

Northeast Wisconsin Technical College
Services for Students
Post Office Box 19042
2740 West Mason Street
Green Bay, WI 54307-9042
920/498-5600 or 800/422-NWTC
920/498-5470 TTY

Southwest Wisconsin Technical College
Office of Admissions
1800 Bronson Boulevard
Fennimore, WI 53809
608/822-3262
608/822-2072 TTY
608/822-6019 FAX

Waukesha County Technical College
Office of Admissions
800 Main Street
Pewaukee, WI 53072
414/691-5275
414/691-5088 TTY

Western Wisconsin Technical College
Office of Admissions
PO Box 908
304 North Sixth Street
La Crosse, WI 54602-0908
608/785-9476
608/785-9551 TTY
608/785-9094 FAX

Wisconsin Indianhead Technical College
Office of Admissions
2100 Beaser Avenue
Ashland, WI 54806
715/682-4591
800/243-WITC (for all WITC campuses)
715/468-7755 TTY (all WITC campuses)

Office of Admissions
1019 South Knowles Avenue
New Richmond, WI 54017
715/246-6561

Office of Admissions
1900 College Drive
Rice Lake, WI 54868
715/234-7082

Office of Admissions
600 North 21st Street
Superior, WI 54880
715/394-6677

APPLICATION *for* ADMISSION

Wisconsin Technical College System

PLEASE TYPE OR PRINT IN INK

1. _____
   Legal name: Last   First   Middle

2. _____
   Former last name(s) (if applicable)

3. _____
   Permanent address   Street or R.F.D. box number

4. _____
   City   State   Zip Code

5. _____
   Mailing address (if different)   Street or R.F.D. box number

6. _____
   City   State   Zip Code

7. __ __ __ - __ __ __ - __ __ __ __   __ __ __ - __ __ __ - __ __ __ __
   Phone number   Other / Work phone number

8. _____
   Email address (if available)

9. ____ ____ ____ – ____ ____ – ____ ____ ____ ____
   Social security number

10. Sex   ☐ Male   ☐ Female

11. Date of birth ____ – ____ – ____
    Month   Day   Year

12. U.S. veteran   ☐ Yes   ☐ No

13. If you are **not** a U.S. Citizen or Permanent   Resident, please provide:

    _____   _____
    Visa type   Visa No.

14. I am a legal resident of:

    _____
    City / Village / Township (circle one and write in name)

    _____
    County   State

15. _____
    Name of high school district you now reside in

16. This information is voluntary and confidential. Your response
    will not affect admission to the technical college. Ethnic group:
    ☐ American Indian/Alaskan Native   ☐ Asian
    ☐ Native Hawaiian or other Pacific Islander   ☐ Black, not of Hispanic origin
    ☐ Hispanic   ☐ Other
    ☐ White, not of Hispanic origin

17. I wish to attend _____ Technical College at _____ Campus

18. Have you attended this college before?   ☐ Yes   ☐ No   If yes, last year and semester attended _____

19. Semester you wish to begin   ☐ Fall   ☐ Winter/Spring   ☐ Summer   Year_____

20. Program choice #1_____ Program code # *(if known)* _____ _____ – _____ _____ _____ – _____

    Program choice #2_____ Program code # *(if known)* _____ _____ – _____ _____ _____ – _____
    (optional)

21. Name of last high school_____ City_____ State_____ High school grad.? ☐ Yes ☐ No _____
    (Grad.date)

22. If you did not complete high school and receive a high school diploma, have you completed a _____ GED? _____ HSED ?

    If so, date completed _____, received from_____

23. Circle highest grade **completed**   8   9   10   11   12   13   14   15   16   17   *over*

24. List previous colleges and universities attended *(official transcript will be required for credit transfer)*

    | | | | Dates attended | |
Name	City	State/Province	from/to	Date graduated
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

25. I certify that the information on this application is true and complete to the best of my knowledge

    _____   _____
    Date   Signature

Map labels — Regions:
WISCONSIN INDIANHEAD · NICOLET AREA · CHIPPEWA VALLEY · NORTHCENTRAL · NORTHEAST WISCONSIN · MID-STATE · FOX VALLEY · WESTERN WISCONSIN · LAKESHORE · MADISON AREA · MORAINE PARK · MILWAUKEE AREA · SOUTHWEST WISCONSIN · BLACKHAWK · GATEWAY · WAUKESHA COUNTY

Map labels — Cities:
Superior · Ashland · Phillips · Minocqua · Rhinelander · Rice Lake · New Richmond · Medford · Antigo · Marinette · Menomonie · Chippewa Falls · Wausau · Sturgeon Bay · River Falls · Eau Claire · Spencer · Wittenberg · Marshfield · Stevens Point · Green Bay · Independence · Wisconsin Rapids · Appleton · Black River Falls · Oshkosh · Cleveland · La Crosse · Mauston · Tomah · Sparta · Fond du Lac · Viroqua · Portage · Beaver Dam · Reedsburg · West Bend · Mequon · Madison · Milwaukee · West Allis · Watertown · Pewaukee · Fennimore · Fort Atkinson · Waukesha · Oak Creek · Janesville · Racine · Monroe · Elkhorn · Kenosha

Most colleges have additional centers or locations where specific courses are available. Contact the college of your choice for this information.

WTCS IS COMMITTED TO EQUAL OPPORTUNITY AND NON-DISCRIMINATION

The Wisconsin Technical College System colleges are committed to providing equal educational opportunity and non-discriminatory treatment, without regard to race, color, national origin, sex, disability, or other applicable legislated categories in all areas including, but not limited to: recruitment, course and program access, admissions, curriculum, student policies and application, counseling, prevocational and job placement services, physical education and athletics, student financial assistance, apprentice training, housing, employment and extracurricular activities.

The Affiative Action Officer in each technical college is designated to handle inquiries and/or complaints regarding discrimination matters.

DID YOU REMEMBER TO:
✔ Enclose the $30 application fee
✔ Request copies of official transcripts
✔ Send the application form directly to the college

You can also apply on-line using the electronic application found at our website,
www.tec.wi.us

Wisconsin
Technical College System