

MORAINÉ PARK TECHNICAL COLLEGE

# CATALOG

2010-2011

*For course descriptions, click here*

*For program information, click here*



[www.morainepark.edu](http://www.morainepark.edu)



# CATALOG

## Moraine Park Technical College

2010-2011

### Our Mission —

Moraine Park Technical College builds and maintains a competitive workforce in collaboration with our communities through a future-focused learning environment.

#### **Moraine Park Technical College Is Accredited By:**

The Higher Learning Commission of the  
North Central Association of Colleges and Schools  
30 N. LaSalle Street, Chicago, IL 60602  
1-800-621-7440

#### **Moraine Park Technical College Is Approved By:**

Wisconsin Technical College System  
Wisconsin Educational Approval Board for Veteran's Training

#### **The Following Programs Are Accredited or Approved By:**

- Alcohol and Other Drug Abuse** – State of Wisconsin Department of Regulation and Licensing
- Automotive Technician** – National Automotive Technicians Education Foundation
- Barber/Cosmetologist/Nail Technician** – State of Wisconsin Department of Regulation and Licensing
- Chiropractic Technician** – Wisconsin Chiropractic Examining Board
- Clinical Laboratory Science** – National Accrediting Agency for Clinical Laboratory Sciences
- Culinary Arts** – American Culinary Federation
- Health Information Technology** – Commission on Accreditation for Health Informatics and Information Management Education
- Medical Assistant** – Commission of Accreditation of Allied Health Educational Programs and American Association of Medical Assistants
- Nursing** – National League for Nursing Accrediting Commission, Inc. and Wisconsin Board of Nursing
- Radiography** – Joint Review Committee on Education in Radiologic Technology
- Respiratory Therapist** – Committee of Accreditation for Respiratory Care
- Surgical Technology** – Commission on Accreditation of Allied Health Education Programs in Cooperation With the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting
- Veterinary Technician** – American Veterinary Medical Association



**MORAIN E**  
**PARK**  
TECHNICAL COLLEGE

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**Notice** The programs offered by Moraine Park Technical College, in large part, are based on labor market needs. As labor market needs change, courses within the programs may also change, new program offerings are developed and less in-demand programs may be discontinued in order to respond effectively to business, industry and the community. As a result, information in this catalog is correct at the time of printing but may change. Prospective students are advised to verify information with the Admission's Office at Moraine Park before enrolling or completing admission.

This catalog is not to be considered, in any way, a contractual agreement between the Moraine Park Technical College District 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.

# WELCOME TO MORAINE PARK TECHNICAL COLLEGE

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“What you learn in our classrooms today is what tomorrow’s employers need—today and into the future.”

Dr. Gayle Hytrek, President

Whether your goal is to take a few courses to enrich your life or obtain a diploma, certificate or degree, you can be assured that our faculty, staff and administration are committed to helping you achieve it.

Our more than 60 associate of applied science degrees and technical diplomas and nearly 50 certificates and apprenticeships let you experience hands-on training using state-of-the-art equipment. What you learn in our classrooms today is what employers need—today and into the future. In our fast-paced, constantly changing world, we are here to support you in life-long learning. We hope to see you returning to Moraine Park to take advantage of our many education and training opportunities. And, you should know the Moraine Park credits you earn are transferable to a variety of public and private colleges and universities.

Access to a Moraine Park education has never been easier. Locations for traditional classes are conveniently located at the Beaver Dam, Fond du Lac and West Bend campuses as well as convenient locations throughout the district. To accommodate your busy life style, Moraine Park offers various ways to learn—choose online, online blended with face-to-face, Interactive Video Conference (IVC) or accelerated courses. Some degrees are

available totally online or in our new FLEx (Flexible Learning Experience) format where all of your program courses are offered on the same night each week. You decide what works best for your lifestyle.

Our success is measured by you successfully meeting your goals. Our extensive support services, like financial aid, career and personal counseling, academic advising, job placement assistance, occupational testing and general college courses are all available to ensure your success in completing your degree. Key to the Moraine Park educational experience is an active student campus life. We also offer a variety of student social activities including fall and spring picnics, bands, guest speakers and the opportunity to get involved outside of the classroom through our student clubs and organizations. You’ll find Moraine Park to be your educational home.

Thank you for choosing Moraine Park Technical College for your education. Please let me know if there’s anything we can do to make the time you spend with us even better.



Dr. Gayle Hytrek  
President



## ■ HINT

Some programs have limited space and great interest and only accept applications during specified fall and spring application windows. The fall application window is September 15 until October 15 and the spring application window is February 15 to March 15. Please check with the Admissions Office for program availability and application windows.

## ■ INDIVIDUAL CAMPUS TOURS

College representatives provide a personalized opportunity to see the campus and classrooms, to explore program offerings, and to learn about the admissions process. Call 1-800-472-4554 to set up your appointment with an Outreach Specialist.

## ■ FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

Educational records are protected under the provisions of the Family Educational Rights and Privacy Act of 1974. Students wishing to withhold public information under this law can obtain information from the Registrar's Office.

## Admissions Policy

Moraine Park Technical College maintains an open course enrollment policy for all prospective students.

## Admissions Procedure

Applications will be processed after the following steps are completed:

- A. Associate of Applied Science Degree and Technical Diploma Programs
  1. Complete and forward an application to any Moraine Park campus.
  2. Include a one-time \$30 nonrefundable application fee.
  3. Submit **official** high school transcript and if applicable, all **official** postsecondary transcript(s).
  4. Take the college placement test or submit ACT scores. Allow four hours for testing time. At this time, there is a \$15 fee for the test.

5. Additional admission steps may be required for some programs. Please verify with the Admissions Office.

### B. Certificate Admissions

1. Complete and forward an application to any Moraine Park campus.
2. Include a one-time \$30 nonrefundable application fee.
3. Nursing Assistant and Phlebotomy Certificate program students should contact Admissions at 1-800-472-4554 for additional information prior to submitting an application.

High school students may apply for admission after July 1 following their junior year. (Certain programs have specific application windows.) Please contact admissions to verify if applications are being accepted. An acceptance letter is issued once all application requirements have been completed. This allows a priority registration date. Failure to register on this date will forfeit priority.

Applications for admission may be obtained online, in person or in writing at:

### Moraine Park Technical College

Student Services Call Center  
920-924-3207 or 1-800-472-4554

Beaver Dam Campus  
700 Gould Street  
Beaver Dam, WI 53916-1994

Fond du Lac Campus  
235 North National Avenue  
PO Box 1940  
Fond du Lac, WI 54936-1940

West Bend Campus  
2151 North Main Street  
West Bend, WI 53090-1598

Moraine Park Web admission information is available at [www.morainepark.edu/admissions](http://www.morainepark.edu/admissions).

## ASSESSMENT OF STUDENT LEARNING

### Outcome Assessment Process

Assessment is an ongoing process aimed at monitoring and improving student learning. As a graduation requirement, Moraine Park requires students to complete an Exit Assessment demonstrating their competence in Program Learning Outcomes. Some examples of Exit Assessments are: capstone projects or experiences, portfolios, internship/clinical evaluations and/or standardized tests. Each program's Academic Advisor can inform students about the required Exit Assessment or information is available on the Web at [www.morainepark.edu/assessment](http://www.morainepark.edu/assessment). Throughout the educational experience,

students participate in their learning self-assessment activities such as surveys or inventories, reflection statements and/or essays. Self-assessment at regular intervals helps students track progress toward their educational goals. Transcripts document completion of the Exit Assessment with a completion date.

### Core Abilities

Moraine Park faculty members, together with representatives from business and industry, identified seven essential skills that are key to an individual's employment success. Students develop these seven "core abilities" and are responsible for their application. Graduates have

a greater chance of success, because employers prefer to hire and promote individuals who:

- > Work productively
- > Demonstrate Integrity
- > Communicate clearly
- > Work cooperatively
- > Act responsibly
- > Adapt to Change
- > Think critically and creatively

For descriptions of core abilities, please refer to the Assessment of Student Learning Web page.

[www.morainepark.edu/assessment](http://www.morainepark.edu/assessment).

# FINANCIAL INFORMATION / FINANCIAL AID

## Costs for Full-Time Programs (2010-2011)

\*Note: Fees are based on 2009-2010 costs as fee amounts set by the State of Wisconsin were not available at time of publication.

Fee Type	Cost	Description
<b>Student</b> Program Tuition – State Resident	*\$101.40 per credit	Online students are not charged out-of-state fees. Charged for all associate of applied science degree, technical diploma, and State Resident apprenticeship credits and adult and continuing education credit equivalence.
Program Tuition – Out-of-State	*\$152.10 per credit	By act of the Wisconsin State Legislature [Wisconsin Statute 38.24(3)], Nonresident students who are not Wisconsin residents nor subject to reciprocal agreements with the Wisconsin Technical College System Board must assume liability for the nonresident fee of \$50.70 added to the base tuition established by the Board. In all cases, the student is responsible for providing proof of residency.
Material Supplemental	\$4.00 minimum 5% of program fees	Instructional materials consumed by students and instructors. Partially subsidizes districtwide programs in student health, student development and student life.
Security Fee	\$.50 per credit	Supplemental fee charged for courses that meet in a Beaver Dam, Fond du Lac or West Bend campus classroom.
Liability Insurance	\$.60/\$.90 per credit	Charged on courses with lab, clinical or internship instruction in Alcohol and Other Drug Abuse Associate, Barber/Cosmetologist, Child Care Services, Chiropractic Technician, Clinical Laboratory Technician, Early Childhood Education, Emergency Medical Technician, Health Information Technology, Instructional Assistant, LPN to ADN Progression Track, Medical Assistant, Medical Billing Specialist, Medical Office Specialist, Medical Transcription, Medication Assistant, Nursing Assistant, Nursing – Associate Degree With a Practical Nursing Exit Point, Paramedic Technician, Phlebotomy Technician, Radiography, Respiratory Therapist, Surgical Technology, Veterinary Technician programs and certificates.
Online Course Access	\$45.00 per course	
<b>Category</b> <b>Testing</b> NLN Anatomy and Physiology NLN Microbiology Placement Test GED HSED	\$25.00 \$25.00 \$15.00 \$15.00 per test \$15.00 per test	
<b>Other</b> Program Application Avocational Uniform Service	\$30.00 one-time, nonrefundable \$80.00 \$15.00 per credit	Charged for uniforms in the Automotive Technician program.
Credit for Prior Learning - Exam	\$30.00 processing fee 30% of tuition value rate per credit	Charge for administration of challenge exams for advanced standing credit, nonrefundable if credit is not awarded; exam can be taken one time.
Credit for Prior Learning - Occupational Experience	\$30.00 processing fee 30% of tuition value rate per credit	Processing fee is charged to initiate the occupational credit evaluation. Once awarded per credit fee applies. No fee is charged for transfer of credit.
Official Transcript	\$6.00/\$10.00 (on-demand) nonrefundable	
Graduation Application Processing Fee	\$30.00 per requested degree nonrefundable	
Replacement Diploma Fee	\$15.00	Fee assessed for replacement of lost or damaged diploma documents.
Deferred Tuition Plan	\$35.00 per term	Fee assessed each semester tuition plan is established, an application is required.
Criminal Background Check	\$30.00	Costs associated with acquiring a criminal background check from the Wisconsin Department of Justice and Department of Health and Family Services for all the programs listed under Liability Insurance Fee.
Motor Vehicle Record Check	\$20.00	Costs associated with obtaining proof of valid driver's license for Electrical Power Distribution program students for CDL training purposes.
Books/Materials	Varies due to fluctuating costs of books and instructor requirements.	Includes items such as the tool kit and mannequin required in Barber/Cosmetology, kitchen knives required in the food programs, tool kit rental/deposit and special materials such as safety equipment required in manufacturing programs. Textbooks and materials are available in the Moraine Park Bookstores. Some programs also require uniforms.
<p><b>All fees are subject to change annually.</b>  <b>Costs for the first-year programs range from \$1,500* to \$5,000* per year for tuition and fees depending on the number of credits taken.</b>  <b>Books and supply costs range from \$350* to \$2,100* depending on the program. Contact Student Services for updated costs per program.</b>                      *Estimate                      These costs are provided by the Registrar's Office and are subject to change without notice.                      They are not to be considered as contractual guarantees or absolute costs in each program.</p>		





## Federal Title IV Return of Funds Policy

1. Federal law specifies how a school must determine the amount of federal financial aid\* that a student earns if he/she withdraws, drops out, is dismissed or takes a leave of absence prior to completing more than 60 percent of a payment period.
2. The amount of federal financial aid assistance that a student earns is determined on a pro rata basis. Once the student has completed more than 60 percent of the payment period, all federal financial aid is considered to be earned.
  - **Percent earned** = Number of calendar days completed up to the withdrawal date.\*\* Divide total calendar days in the payment period with an allowance for any scheduled breaks that are at least five days long.

- **Percent unearned** = 100 percent minus percent earned.
3. When a student receives federal financial aid in excess of earned aid,
    - **The school returns the lesser of:**
      - > Institutional charges multiplied by the unearned percentage (determined by the calculation in #2),

or

- > Title IV federal financial aid disbursed multiplied by the unearned percentage (determined by the calculation in #2).
- **The student returns:**
  - > Any remaining unearned federal aid not covered by the school.
  - > Additional loan funds are repaid in accordance with the terms of the promissory note; that is, scheduled payments to the holder of the loan over a period of time.

- > The grant amount the student must return is a grant overpayment; arrangements must be made with Moraine Park to return the funds.

4. Moraine Park will invoice the student for the funds that are required to be repaid, and accounts not paid within 10 days are turned over to the U.S. Department of Education.

\*Federal financial aid includes the federal Pell Grant, federal Supplemental Educational Opportunity Grant (SEOG), federal Stafford Loans (subsidized and unsubsidized), federal PLUS Loans for parents, and Academic Competitiveness grant.

\*\*Withdrawal date is defined as the actual date the student begins the institution's withdrawal process, the student's last date of academically related activity, or the midpoint of the payment period for a student who leaves without notifying the institution.

Withdrawal from all courses before aid checks are available will cancel all financial aid.

For more information regarding financial aid, go to <http://www.morainepark.edu/financialaid> and click on the Award Guide link.

## VETERANS

### Programs Approved for Veterans

Most programs of study at Moraine Park Technical College have been approved for veterans' benefits by the Veterans Administration under the Montgomery GI Bill-Active Duty, Post 9/11, Selected Reserve, VEAP, REAP, Vocational Rehabilitation and Veteran Educational Assistance for Survivors and Dependents programs. For more information concerning eligibility and the period of eligibility, contact the nearest VA office or your County Veterans Service Office.

Eligible veterans can apply for educational benefits through their local County Veterans Office. To receive maximum benefits, a veteran must be enrolled full-time in an associate of applied science degree or technical diploma program. Further information is available from the Financial Aid Office.

Printed course listings by semester are available for all programs from the Admissions Office.

### Veterans' Benefits

#### Associate Degree and Technical Diploma

Benefits	Credits
Full-time	12 or more
Three-fourths	9-11
One-half	6-8
Less-than-one-half	5 or less

**Veteran Standards of Progress** All veterans must continue to make satisfactory progress in their program. As required by the Veterans Administration Regulations, Moraine Park Technical College will report unsatisfactory progress in accordance with the information under **Academic Standards** in this catalog (see page 10).

A veteran may be certified only for courses and electives required for their specific program. Credit from other higher education institutions must be evaluated for advanced standing.

**It is the responsibility of the student** receiving veteran educational benefits to notify the Veterans' certifying official of enrollment, changes in enrollment and withdrawal.

### Wisconsin Veterans Tuition Programs

#### Wisconsin G.I. Bill

Wisconsin veterans may be eligible for a 100 percent waiver ("remission") of tuition for themselves and a 100 percent waiver for qualifying dependents of a Wisconsin veteran with a service-connected disability rating of 30 percent or greater. For additional information, eligibility criteria and application instructions, please go the WDVA Web site at [www.dva.state.wi.us](http://www.dva.state.wi.us) or visit your County Veterans Service Office for assistance.

**VetEd Reimbursement Grants** Wisconsin veterans may be eligible for partial tuition reimbursement following successful completion of full- or part-time coursework. Pre-applications must be submitted no later than 180 days after the semester, term or course start date. Reimbursement grant applications must be completed no later than 60 days following the end of the course. To apply online, please go to the WDVA Web site at [www.dva.state.wi.us](http://www.dva.state.wi.us) or visit your County Veterans Service Office for assistance.

# GRADING AND ACADEMIC STANDARDS

## Grades and Grading

- > Grading procedures and standards of evaluation are presented to students at the beginning of a course by the instructor.

### Grade Definitions:

On transcripts printed after to January 2009, grades are reflected as follows:

Grade		Grade Points for Each Credit Hour
A	Met all competency requirements at an excellent level	4
B	Met all competency requirements at a very good level	3
C	Met all competency requirements at an acceptable level	2
NC	Did not meet minimum competency requirements	0
I	Incomplete	0
P	Passing	0
PC	All hours passed, continuing	0

### Other Symbols in Grade Columns

NR	Course Completed – No Grade Reported
IP	Course in Progress
R or RP	Academic Forgiveness or Repeated course
AU	Audit
T	Transfer Advanced Standing Credit*
E	Credit for Prior Learning – Examination
O	Credit for Prior Learning – Occupational Experience
M	Advanced Standing Credit
W	Withdrawals (all withdrawals do appear on transcripts)

\*Or T with grade noted, example: Transfer of A would be TA

## Repeat Courses

Students can repeat a course twice; however, certain health courses can only be repeated once. Once a course is successfully completed, the original attempt (NC) grade will be replaced with an RP grade and will not be used to calculate the cumulative GPA. Repeat courses will be counted toward attempted work.

## Auditing Courses

- > An auditing student must register and pay the same fees as students enrolled for credit prior to the first day of the course. The usual withdrawal/refund policy applies.
- > A student who audits must meet attendance requirements, grades will not be recorded, no credit is earned, therefore the class does not count towards the credit load, grade point average or for financial aid.
- > **When auditing a course, a student may not change their enrollment status.**
- > Students age 60 or over may audit classes, but they are not required to pay program fees. They are responsible for all other course fees.
- > Audit option is not available for community or apprenticeship courses.

## Withdrawal From Courses

A student must formally withdraw from courses in the Student Services Office. The last date to withdrawal without affecting cumulative grade point calculation occurs prior to completion of 80 percent of the potential hours of instruction.

### Grade Reports

Grades can be viewed via self-service Banner via the Student Records>View Final Grades links. If official grades are needed, please request an official transcript from the Registrar's Office.

## Phi Theta Kappa

Phi Theta Kappa is an international honor society that recognizes two-year college students and encourages scholarship participation. Eligible candidates for induction to this honor society are invited and can continue membership if they achieve and maintain an overall 3.5 cumulative GPA and have 12 or more credits completed in an associate of applied science degree program. Further information is available in student activities or registration.

Additional awards and recognition are listed in detail in the Student Information Handbook.

## Official Transcript of Grades

- > Official transcripts of all levels of the academic record must be requested in writing with signature to the Registrar's Office at the Fond du Lac campus.
- > There is a \$6 fee for each official transcript requested. A \$10 fee applies for on-demand official transcript requests.
- > Transcripts are not released to students with financial obligations to Moraine Park Technical College.
- > Transcripts can be viewed via Banner Self-Service, Student Records, View Your Academic Transcript.

## Standards of Admission

Moraine Park Technical College has an open course enrollment procedure. Most courses are open to all students who complete prerequisite course requirements with passing grades or meet specific program admission requirements such as criminal background checks or requirements set by state statutes. Moraine Park has remedial and developmental courses to assist those students who do not have the prerequisite requirements.

# GRADING AND ACADEMIC STANDARDS (CONT.)

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## Academic Standards

- > Students in all programs are required to maintain an overall cumulative grade point average of 2.0 (“C” average) to graduate in the program.
- > A “C” must be attained in all required courses.
- > Failure to maintain standards will place students on probation until the proper level of achievement has been attained.

## Academic/Attendance Requirements

The following criteria is used to evaluate a students’ academic progress:

1. Good attendance
2. Completing assignments to make satisfactory progress toward course completion
3. Completing all program requirements

4. Meeting set standards in assigned projects and reports
5. Where applicable, demonstrating practical hands-on skills

If the instructor feels a student is not making satisfactory progress or is not regularly attending the class, he or she will work with advisors and/or Student Services. Recommendations may include a plan to improve study habits and/or attendance, to reduce class credit load, and/or to reduce the hours of employment. If recommendations are not followed a student may be dropped from the class.

## Probation

- > Students who do not maintain an overall 2.0 grade point average (GPA) will be placed on probation for the next term.

- > During probation, the student may be contacted regarding available college resources to discuss academic options available to them.
- > Students on probation may be suspended if their cumulative GPA falls below a 2.0.
- > If a student achieves a 2.0 GPA during the probation semester/term, probation status continues until a cumulative GPA of 2.0 is attained.

# CREDIT FOR PRIOR LEARNING

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## Credit for Prior Learning

Credits are granted for the knowledge and skills related to a curriculum of the District, but have not been attained through the customary experiences of a particular curriculum. Credit for prior learning may be granted for:

1. Credit(s) transferred from another regionally accredited institution of higher education and USAFL.
2. Successful completion of competency examinations designed to evaluate the applicant’s proficiency in an instructional area.
3. Knowledge and skills gained from experience obtained in occupations, military services and other courses upon completion of an examination.

## Advanced Standing

Students may be granted advanced standing for coursework previously taken. For more information, contact the Registrar.

## Transfer Credits

Students are granted transfer credit for courses completed at other accredited institutions of higher education if the courses are deemed similar to Moraine Park Technical College’s curriculum. The credit granted cannot exceed Moraine Park Technical College’s credit allowed for a course. Grades of less than “C” do not transfer. Official transcripts are required. There is no charge for receipt of transfer credit. For more information, contact the Registrar.

## Credit for Prior Learning – Examination

Proficiency examinations allow students to demonstrate knowledge and skills related to a particular course. Upon successful completion, students receive Moraine Park credit for the course. Proficiency examinations can be administered at various times throughout the semester by appointment and payment of a \$30 processing fee. Thirty percent of the tuition value rate is charged per credit if exam is successfully completed.

## Credit for Prior Learning – Occupational

Students wishing to receive advanced standing for knowledge and skills gained from experience obtained in occupations, military services and other learning experiences must request evaluation of experience through Student Services. A \$30 processing fee is charged to initiate the evaluation process. Documentation is collected for evaluation by appropriate program Faculty member/Dean. Thirty percent of the tuition value rate is charged per credit for each credit awarded.

# ACADEMIC CREDIT TRANSFER AND ARTICULATION

## Agreements

### Moraine Park Technical College Credit Transfer to Other Higher Education Institutions

A transfer or articulation agreement means that one college agrees to accept courses in transfer from another college as equivalent to specific courses or as meeting specific degree requirements. This agreement is worked out in advance of transfer and applies to any student who meets the transfer agreement requirements. The college or university you wish to attend determines the number of credits that will transfer and if and how they will apply toward your baccalaureate degree. **View additional transfer information online at [www.morainepark.edu/academics/transfer](http://www.morainepark.edu/academics/transfer).**

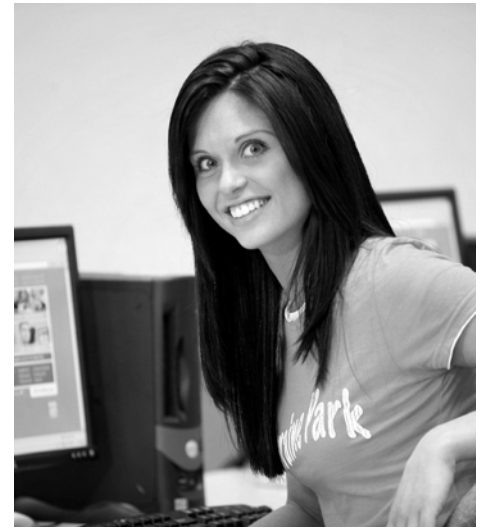
### Transfer Credit to University of Wisconsin Green Bay (UWGB) and University of Wisconsin Oshkosh (UWO)

Moraine Park's General Studies Transfer Certificate is designed to provide direct transfer between Moraine Park and these universities of Wisconsin. The courses in this certificate also apply to Moraine Park general education requirements.

Graduates of this certificate with a 2.5 overall grade point average may qualify for sophomore status at various University of Wisconsin colleges. Or graduates desiring to continue their education at Moraine Park could apply all of the credits earned to a Moraine Park associate degree program. **View additional transfer information online at [www.morainepark.edu/academics/transfer](http://www.morainepark.edu/academics/transfer).**

**Transfer of Moraine Park Credit to UW System Schools** Students enrolled at Moraine Park Technical College 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 21 credits of General Education coursework.
2. Students who have successfully completed an associate degree may be eligible to transfer technical credits when there is a direct relationship between the associate of applied science degree program and a program offered at the UW System Institution.
3. Students transferring from Moraine Park 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 Moraine Park and specific UW institutions for some programs.
5. Students may also have individual courses evaluated for transferability by UW System staff.
6. Transfer Information System (TIS): The UW Transfer Information System (TIS) provides program and credit transfer information between the University of Wisconsin and the Wisconsin Technical College System. Although the information is intended to be current and accurate, it should NOT be considered a substitute for formal admission or transfer procedures to the individual university. Access TIS online at [www.uwsa.edu/tis](http://www.uwsa.edu/tis).



### ■ STUDENT HANDBOOK

Moraine Park publishes the "Student Information Handbook" yearly. The information contained in the handbook covers a broad range of topics including:

- > Academic Calendar
- > Student Services
- > Student Conduct
- > Appeals Process
- > Student Activities
- > Discrimination Grievance Procedure
- > Family Education Rights & Privacy Act (FERPA)
- > Safety & Security Information

Copies of the Student Information Handbook are available at the campus main desks, in Student Services and in the Student Success class or via the Web under Student Services at <http://mymptc.morainepark.edu/>.

# GRADUATION REQUIREMENTS / EDUCATIONAL GUARANTEE

## Graduation Requirements

**Assessment** Students accepted into a program after August 2000 will complete an exit assessment for graduation to demonstrate proficiency of program outcomes. Exit assessment requirements vary by program and more information is found on <http://www.morainepark.edu/assessment>.

**Residency** Students must earn 25 percent of the total program credits toward the program sought at Moraine Park Technical College.

**Graduation Application and Fee** A graduation application form shall be completed during the last semester to identify graduation intent, for every program requested. A \$30 non-refundable processing fee is charged for each program requested which covers the cost of graduation related activities, diploma and cover and graduation apparel.

**GPA** Students in all programs are required to achieve a cumulative grade point average of 2.0 or better or a 2.0 grade point average in all attempted credits required in the program. Failure to do so will prevent the student from graduating until such time as the proper level of achievement has been attained.

**Honors** Recognition of academic excellence will be determined by the cumulative grade point average achieved at the time the degree is awarded. Students who achieve **cumulative grade point averages (GPA)** between 3.75 and 4.0 will receive **High Honors**. Students who achieve cumulative grade point averages between 3.5 and 3.74 will receive **Honors**. Cumulative GPA includes grades for all courses completed. Prior to January 2009, cumulative GPA calculations were frozen each time a degree was achieved. Current cumulative GPA calculations will no longer reflect this status. Previously awarded honors designations will be retained on the transcript. Honors designations will not be retroactively awarded.

All financial obligations to Moraine Park Technical College must be fulfilled in order to obtain certificate, diploma or degree documentation. An all-College graduation ceremony is conducted once per year in May at the conclusion of the term. Students are encouraged to attend.

## Guaranteed Retraining

Moraine Park Technical College affirms that education and training offered by the College is designed to enable eligible persons to acquire the occupational skills training necessary for full participation in the workforce.

To further assist graduates in obtaining job-entry competencies, Moraine Park guarantees up to six credits of additional instruction to graduates of programs of at least one year in length who do not obtain or maintain employment in their program or related area within six months after graduation. This is effective for students who have entered since the fall of 1993.

To be eligible, graduates must certify, in writing, to the Office of Registrar:

1. They have not secured employment in the occupational field in which they received the degree or diploma.
2. They have actively pursued employment in their occupational field.
3. They have not refused employment in their occupational field or in a related field.
4. They have actively sought the assistance of the College's Employment Services Office.
5. Within ninety (90) days after his/her initial employment, the graduate's employer certifies to the Registrar that the graduate lacks entry-level job skills and specifies in writing the specific areas in which the graduate's skills are deficient.



Program and material fees are covered by this policy. The graduate is responsible for all other expenses. Courses taken must be in the same occupational program the graduate's degree or diploma was received. The credits must be courses offered by Moraine Park and be currently scheduled for the general public. Courses will be provided on a space-available basis. Once a graduate accepts a position in their program or related area, they are no longer eligible for this guarantee.



[www.morainepark.edu](http://www.morainepark.edu)

# STUDENT RIGHTS AND RESPONSIBILITIES

## Moraine Park Policies

**Affirmative Action** The Moraine Park Technical College District is committed to compliance with the Civil Rights Act of 1991; the Americans With Disabilities Act of 1990, as amended; Titles VI and VII of the 1964 Civil Rights Act, as amended; the Age Discrimination in Employment Act, as amended; the Equal Pay Act of 1963, as amended; Title IX of the 1972 Education Amendments; Section 504 of the 1973 Rehabilitation Act; the Wisconsin Fair Employment Law; Federal and Wisconsin Executive Orders; Wisconsin Administrative Code; the Carl D. Perkins Vocational Education Act; and the Office for Civil Rights Guidelines, stating that no person shall be denied benefits, excluded from participation or subjected to discrimination because of race, color, religion, national origin, ancestry, creed, sex, disability, arrest record, conviction record, age, veteran status, membership in National Guard, State Defense Force or other reserve component of the military forces of Wisconsin or the United States, marital status, pregnancy, sexual orientation, political affiliation or parental status.

Alleged acts of discrimination that are in violation of the equal employment or education opportunity policies under which the Moraine Park Technical College District operates shall be filed directly with:

Richard Barnhouse  
Equal Opportunity Officer – Student  
235 North National Avenue  
PO Box 1940  
Fond du Lac, WI 54936-1940

Beth Mendoza  
Equal Opportunity Officer – Staff  
235 North National Avenue  
PO Box 1940  
Fond du Lac, WI 54936-1940

**Notice to Applicants, Parents or Guardians** Services, financial aid and other benefits available through the Wisconsin Technical College System are provided on a nondiscriminatory basis as required by Titles VI and VII of the Civil Rights Act of 1964, as amended.

Individuals applying for or receiving assistance through this agency who believe that discrimination is being practiced by Moraine Park Technical College or the Wisconsin Technical College System may file a written complaint with the appropriate state or federal agency or both.

Any written complaint is to be signed by the complainant; shall give in detail the time, place, pertinent facts and circumstances of the alleged discrimination; and shall be submitted to the:

State Director  
Wisconsin Technical College System  
PO Box 7874  
Madison, WI 53707-7874

**Title IX** Moraine Park Technical College is committed to Title IX, which reads: “No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal assistance . . .” Moraine Park Technical College is an equal opportunity/ access employer and educator functioning under an Affirmative Action Plan.

**Title VI of the Civil Rights Act of 1964** Title VI of the Civil Rights Act, as amended, prohibits discrimination against students on the basis of race, color or national origin in programs receiving federal funds. Title VI and related case law prohibits discrimination on the basis of race in student admissions, access to courses and programs, and student policies and their application. They also require the provision of bilingual instruction or some other method of compensating for students of limited English-speaking ability. Any institution or agency receiving federal funds is covered by Title VI. Most education activities

of the recipient agency or instruction are covered, even some activities or programs not in direct receipt of federal funds. Title VI is enforced by the Office for Civil Rights of the U.S. Department of Health, Education and Welfare.

**Title VII, Section 703, Sexual Harassment** Harassment on the basis of sex is a violation of this section. Unwelcome sexual advances, requests for sexual favors and other verbal or physical conduct of a sexual nature constitute sexual harassment. Alleged acts of sexual harassment discrimination that are in violation of the Equal Employment or Education Opportunity policies under which the Moraine Park Technical College District operates shall be filed directly with the Equal Opportunity Officer.

**Section 504 of the 1973 Rehabilitation Act** Section 504 prohibits discrimination on the basis of handicap in employment and programming by all recipients of federal financial assistance. Section 504 is enforced by the Office of Civil Rights of the U.S. Department of Health, Education and Welfare.

**Safety is the single largest concern for all programs at Moraine Park Technical College (MPTC).** Every student must understand that there are certain dangers, hazards and risks included in certain program areas. Whether in the classroom or training field, students must acknowledge that participation may involve the risk of damage to property, bodily injury and in some cases, even death. Therefore, each student agrees to exercise reasonable care at all times with respect to the safety of the student’s own person and personal property and with respect to the safety of other students and their personal property. Moraine Park does not assume any responsibility for such personal injuries or property damage, nor does MPTC provide medical coverage for the student. Each student’s participation in a class is strictly voluntary and it is strongly encouraged that all students carry their own medical insurance in the event of a loss.

# ONLINE EDUCATION OPPORTUNITIES

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## Leading Online Education

Moraine Park students are finding success with their online courses and continue to come back for more. Moraine Park currently has:

- > more than 5,000 online students per year.
- > 22 online programs/certificates.
- > more than 350 online courses per year.
- > a simple online orientation tutorial.
- > technical support 24 hours a day, 7 days a week.
- > dynamic curriculum.

## Are you ready for online?

There are several resources available to Moraine Park students to prepare them for online learning. Find links to Frequently Asked Questions (FAQs), checklists and system requirements by visiting [www.morainepark.edu](http://www.morainepark.edu), click on Programs & Courses then Programs of Study. When *online* Delivery Format is chosen, you can access these links.

## Minimum Software Requirement

- > Microsoft Office Suite (Word, Excel, PowerPoint, Access)

**Note:** All software requirements are subject to change. Additional specialized software may be required for some courses. See course-specific requirements.

## Student E-Mail

Moraine Park will issue all students a student e-mail address. This e-mail will be used for all communications between the College and the student. Students are required to use this account to communicate with the College.

## 2010-2011 Online Programs and Certificates

Program Number	Title	Type
10-101-1	Accounting	Associate of Applied Science Degree
31-101-1	Accounting Assistant	Technical Diploma
97-530-1	Basic Clinical Coding Specialist	Certificate
10-102-3	Business Management	Associate of Applied Science Degree
97-145-1	Entrepreneurship for Small Business	Certificate
97-809-1	General Studies	Certificate
97-196-4	Health Care Leadership	Certificate
10-530-1	Health Information Technology*	Associate of Applied Science Degree
97-196-1	Human Resource Development	Certificate
10-152-5	Information Technology – Applications Developer	Associate of Applied Science Degree
31-152-7	Information Technology – Web Designer/Developer	Technical Diploma
10-522-2	Instructional Assistant*	Associate of Applied Science Degree
97-522-2	Introduction to the Instructional Assistant Career	Certificate
10-196-1	Leadership Development	Associate of Applied Science Degree
97-106-4	Legal Office Skills	Certificate
31-106-7	Medical Transcription*	Technical Diploma
97-196-3	Organizational Management	Certificate
97-196-2	Principles of Management	Certificate
97-522-1	Supporting Children's Learning	Certificate
10-091-1	Veterinary Technician*	Associate of Applied Science Degree
10-527-2	Water Quality Technology	Associate of Applied Science Degree
97-152-1	Web Site Coordinator	Certificate

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All program-required General Education courses are online.

\*Clinicals required.

# CAMPUS AND COMMUNITY INFORMATION

## Beaver Dam

700 Gould Street • Beaver Dam, WI 53916-1994

For class information, call 920-887-4444.

**Student Services Call Center** 920-924-3207.

**To register**, call 920-887-1101 or 1-800-472-4554.

## Campbellsport • New Holstein

**JoAnn Hall • Executive Dean of**

**Economic and Workforce Development**

235 North National Avenue • PO Box 1940

Fond du Lac, WI 54936-1940

920-924-3289 • Fax 920-924-3391

E-Mail [jhall@morainepark.edu](mailto:jhall@morainepark.edu)

For class information, call 920-922-8611.

**Student Services Call Center** 920-924-3207.

**To register**, call 1-800-472-4554 or

920-922-8611 - Fond du Lac.

Information about classes will be mailed before classes begin.

**Campbellsport** classes are held at Campbellsport High School, 114 West Sheboygan Street.

**New Holstein** classes are held at New Holstein High School, 1715 Plymouth Street.

**Oakfield** classes are held at Oakfield High School, 250 Church Street.

## Fond du Lac

235 North National Avenue • PO Box 1940

Fond du Lac, WI 54936-1940

For class information, call 920-922-8611.

**Student Services Call Center** 920-924-3207.

**To register**, call 920-922-8611 or 1-800-472-4554.

## Fox Lake • Horicon • Hustisford

## Juneau • Lomira • Mayville

## Neosho • Waupun

**Karen Coley • Campus and Community Partner**

700 Gould Street • Beaver Dam, WI 53916-1994

920-887-1101 • Fax 920-887-4454

E-Mail [kcoley@morainepark.edu](mailto:kcoley@morainepark.edu)

For class information, call 920-887-4444.

**Student Services Call Center** 920-924-3207.

**To register**, call 1-800-472-4554 or 920-887-1101.

Students are encouraged to purchase books online or at a campus bookstore.

**Fox Lake** classes location, call 920-887-4426.

**Horicon** classes are held at Horicon High School, 841 Gray Street.

**Hustisford** classes are held at Hustisford High School, 845 South Lake Street.

**Juneau** classes are held at Dodgeland High School, 401 South Western.

**Lomira** classes are held at Lomira High School, 1030 Fourth Street.

**Mayville** classes are held at Mayville High School, 500 North Clark Street.

**Neosho** classes are held at Neosho School, 201 Center Street.

**Waupun** classes are held at Waupun High School, 801 East Lincoln Street.

## Hartford • Jackson

## Kewaskum • Slinger

**Laurie Barz • Economic and Workforce Development Representative**

Hartford Union High School • 805 Cedar Street

Hartford, WI 53027 (Room 175B)

262-335-5828 • Fax 262-673-2587

E-Mail [lbarz@morainepark.edu](mailto:lbarz@morainepark.edu) or

[mbauer@morainepark.edu](mailto:mbauer@morainepark.edu).

For class information, call 262-673-4250.

**Student Services Call Center** 920-924-3207.

**To register**, call 1-800-472-4554 or 262-334-3413 - West Bend.

Students are encouraged to purchase books online or at a campus bookstore. To purchase books in Hartford, call 262-335-5828 seven to ten days in advance.

Classes are held at stated community schools unless otherwise indicated.

**Hartford** Regional Center classes are held at Hartford High School, 805 Cedar Street.

**Jackson** classes are held at Living Word Lutheran High School, 2230 Living Word Lane.

**Kewaskum** classes are held at Kewaskum High School, 1510 Bilgo Lane.

**Slinger** classes are held at Slinger High School, 209 Polk Street.

## Ripon • Berlin • Brandon

## Green Lake • Markesan

## Princeton • Rosendale

**Cindy Diemer • Economic and Workforce Development Representative**

Ripon High School

850 Tiger Drive • Ripon, WI 54971-0313

(Room 161) • 920-748-3290 • Fax 920-748-3346

E-Mail [cdiemer@morainepark.edu](mailto:cdiemer@morainepark.edu) or

[mgerner@morainepark.edu](mailto:mgerner@morainepark.edu)

For class information, call 920-748-3290.

**Student Services Call Center** 920-924-3207.

**To register**, call 1-800-472-4554 or

920-922-8611 - Fond du Lac.

Students are encouraged to purchase books online or at a campus bookstore. To purchase books in Ripon, call 920-748-3290 seven to ten days in advance.

Classes are held at stated community schools unless otherwise indicated.

**Berlin** classes are held at Berlin High School, 222 Memorial Drive.

**Brandon** classes are held at Brandon Elementary School, 200 West Bowen Street.

**Green Lake** classes are held at Green Lake High School, 612 Mill Street.

**Markesan** classes are held at Markesan High School, 100 Vista Boulevard.

**Princeton** classes are held at Princeton Schools, Hwy. 23/73.

**Ripon** Regional Center classes are held at Ripon High School, 850 Tiger Drive. Please refer to the Ripon High School building map displayed on the wall off the main entrance area on Dynamic Drive (the first hallway to the right) for the room location.

**Rosendale** classes are held at Laconia High School, 301 West Division Street.

## West Bend

2151 North Main Street • West Bend, WI 53090-1598

For class information, call 262-334-3413.

**Student Services Call Center** 920-924-3207.

**To register**, call 262-334-3413 or 1-800-472-4554.

## Student Success Centers

**Student Success Centers offer free courses to help you:**

- Earn a GED or HSED.
- Improve reading, writing or math skills.
- Qualify for a job, or a better job.
- Prepare to go to college.
- Get help with college courses.
- Learn to speak, read and write the English language (ESL/ELL).
- Be a better parent.

**Call a Student Success Center (listed below) to sign up for a registration session.**

Beaver Dam Campus	920-887-4436
Berlin	920-361-3601
Fond du Lac Campus	920-929-2108
Fond du Lac Job Center	920-926-1241
West Bend Campus/ Washington County Workforce Development Center	262-335-5775



# AGRICULTURE, FOOD AND NATURAL RESOURCES

## Veterinary Technician

Associate of Applied Science Degree:  
10-091-1

The Veterinary Technician two-year associate of applied science degree program focuses on the basic skills needed by individuals in order to assist veterinarians in the handling and restraint and disease prevention, diagnosis and treatment of large and small animals. Students are given practical applications in animal anatomy, physiology, pharmacology and pathology. Students learn skills in assisting veterinarians in surgery and instrumentation as well as in office procedures. Clinical sites are used to practice actual procedures that a veterinary technician is expected to perform.

Recommended high school courses include animal science, chemistry, biology, mathematics, reading, writing and oral communication.

Course Number	Course Title	Credits
<b>Program Admissions Requirement</b>		
091-105	Occupational Preparation	1
<b>Technical Studies Courses</b>		
091-106	Animal Husbandry	3
091-107	Infectious Animal Disease	3
091-120	Veterinary Clinical Pathology 1	3
091-124	Veterinary Clinical Pathology 2	3
091-121	Veterinary Clinical Pathology 3	3
091-125	Veterinary Office Management	3
091-127	Surgical Nursing 1	3
091-128	Large Animal Nursing	2
091-140	Animal Anatomy and Physiology	4
091-152	Surgical Nursing 2	3
091-153	Medical Nursing	3
091-155	Hospital Supplies and Medicants	3
091-170	Veterinary Medical Terminology	2
091-171	Animal Care and Management 1	3
091-172	Animal Care and Management 2	3
091-173	Animal Care and Management 3	1
091-175	Veterinary Nutrition	1
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
806-105	Principles of Animal Biology	4
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
<b>Total</b>		<b>68</b>

A Veterinary Technician Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Veterinary Technician

Associate of Applied Science Degree:  
Three-Year Track A  
10-091-1

The Veterinary Technician two-year associate of applied science degree program focuses on the basic skills needed by individuals in order to assist veterinarians in the handling and restraint and disease prevention, diagnosis and treatment of large and small animals. Students are given practical applications in animal anatomy, physiology, pharmacology and pathology. Students learn skills in assisting veterinarians in surgery and instrumentation as well as in office procedures. Clinical sites are used to practice actual procedures that a veterinary technician is expected to perform.

Recommended high school courses include animal science, chemistry, biology, mathematics, reading, writing and oral communication.

Course Number	Course Title	Credits
<b>Clinical Admissions Requirement</b>		
091-105	Occupational Preparation (Pre-Core Options)	1
<b>Technical Studies Courses</b>		
091-170	Veterinary Medical Terminology	2
091-106	Animal Husbandry	3
806-105	Principles of Animal Biology (Lab)	4
091-107	Infectious Animal Disease	3
091-120	Veterinary Clinical Pathology 1 (Clinical)	3
091-140	Animal Anatomy and Physiology (Lab)	4
091-106	Hospital Supplies and Medicants	3
091-171	Animal Care and Management 1 (Clinical)	3
091-172	Animal Care and Management 2 (Clinical)	3
091-124	Veterinary Clinical Pathology 2 (Clinical)	3
091-125	Veterinary Office Management	3
091-127	Surgical Nursing 1 (Clinical)	3
091-153	Medical Nursing (Clinical)	3
091-121	Veterinary Clinical Pathology 3 (Clinical)	3
091-123	Large Animal Nursing	2
091-152	Surgical Nursing 2 (Clinical)	3
091-175	Veterinary Nutrition	1
091-173	Animal Care and Management 3	1
<b>General Studies Courses</b>		
801-195	Written Communication (Pre-Core Options)	3
801-197	Technical Reporting (Pre-Core Options)	3
804-107	College Mathematics (804-106/Summer 2010 only; then changes to 804-107) (Pre-Core Options)	3

Course Number	Course Title	Credits
809-166	Introduction to Ethics: Theory and Application (Pre-Core Options)	3
809-196	Introduction to Sociology (Pre-Core Options)	3
809-199	Psychology of Human Relations (Pre-Core Options)	3
<b>Institutional Requirements</b>		
890-125	Student Success (Pre-Core Options)	1
103-159	Computer Literacy (Pre-Core Options)	1
890-130	Career Development	1

## Veterinary Technician

Three-Year Track B  
10-091-1

The Veterinary Technician two-year associate of applied science degree program focuses on the basic skills needed by individuals in order to assist veterinarians in the handling and restraint and disease prevention, diagnosis and treatment of large and small animals. Students are given practical applications in animal anatomy, physiology, pharmacology and pathology. Students learn skills in assisting veterinarians in surgery and instrumentation as well as in office procedures. Clinical sites are used to practice actual procedures that a veterinary technician is expected to perform.

Recommended high school courses include animal science, chemistry, biology, mathematics, reading, writing and oral communication.

Course Number	Course Title	Credits
<b>Clinical Admissions Requirement</b>		
091-105	Occupational Preparation (Pre-Core Options)	1
<b>Technical Studies Courses</b>		
091-170	Veterinary Medical Terminology	2
091-106	Animal Husbandry	3
806-105	Principles of Animal Biology (Lab)	4
091-107	Infectious Animal Disease	3
091-120	Veterinary Clinical Pathology 1 (Clinical)	3
091-140	Animal Anatomy and Physiology (Lab)	4
091-106	Hospital Supplies and Medicants	3
091-171	Animal Care and Management 1 (Clinical)	3
091-172	Animal Care and Management 2 (Clinical)	3
091-124	Veterinary Clinical Pathology 2 (Clinical)	3
091-125	Veterinary Office Management	3
091-127	Surgical Nursing 1 (Clinical)	3
091-153	Medical Nursing (Clinical)	3

(continued)

**Veterinary Technician (cont.)**

**Three-Year Track B**

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
091-121	Veterinary Clinical Pathology 3 (Clinical)	3
091-123	Large Animal Nursing	2
091-152	Surgical Nursing 2 (Clinical)	3
091-175	Veterinary Nutrition	1
091-173	Animal Care and Management 3	1
<b>General Studies Courses</b>		
801-195	Written Communication (Pre-Core Options)	3
801-197	Technical Reporting (Pre-Core Options)	3
804-107	College Mathematics (804-106/Summer 2010 only; then changes to 804-107) (Pre-Core Options)	3
809-166	Introduction to Ethics: Theory and Application (Pre-Core Options)	3
809-196	Introduction to Sociology (Pre-Core Options)	3
809-199	Psychology of Human Relations (Pre-Core Options)	3
<b>Institutional Requirements</b>		
890-125	Student Success (Pre-Core Options)	1
103-159	Computer Literacy (Pre-Core Options)	1
890-130	Career Development	1

**Water Quality Technology  
Associate of Applied Science Degree:  
10-527-2**

Moraine Park's Water Quality Technology program provides students with the skills and training to perform testing, analysis and treatment to community and industrial water supplies. Water Quality technicians are responsible for ensuring that the water we use is safe and that discharge water is processed effectively. Their work combines the precision and accuracy found in the biochemical laboratory with operational aptitude and troubleshooting skills. Each day, municipalities and industries generate billions of gallons of wastewater that must be collected, analyzed and treated.

Program graduates also have employment opportunities as environmental technicians and field service technicians at companies that design and install water treatment equipment for municipalities and manufacturing companies.

This associate of applied science degree offers targeted instruction and practical experience through online Internet-based courses and an on-the-job internship. Geographical location of the student does not matter, as long as the student can access the Internet. Completion of the degree can occur from anywhere on the globe.

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
<b>Technical Studies Courses</b>		
103-165	Exploring the Internet With Client Software	1
196-191	Supervision	3
527-100	Introduction to Wastewater Treatment	3
527-103	Conventional Wastewater Treatment	3
527-105	Advanced Wastewater Treatment Processes	4
527-111	Water Chemistry	4
527-120	Hydraulics of Water and Wastewater	3
527-125	Industrial Wastes	3
527-130	Groundwater Supply and Distribution	3
527-131	Surface Water Supply and Treatment	3
527-171	Water Quality Internship	3
527-136	Equipment Maintenance and Instrumentation	4
527-150	Advanced Water Treatment	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>64</b>

The Water Quality Internship includes an exit assessment, which is a graduation requirement for the program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

**What is an apprenticeship?**

An apprenticeship combines on-the-job training, under the supervision of a skilled trade worker, with related classroom instruction aimed at providing the apprentice with a comprehensive knowledge of the trade. Apprenticeships are offered for both union and nonunion workers.

Apprentices are paid throughout their training period on a progressive wage scale that averages at least 60 percent of the journey-level worker's wages in that trade. The farther along the apprentice is in training, the higher the wages.

The employer/sponsor, the apprentice and the state sign an "indenture." This formal contract indicates the apprenticeship, wages and subjects to be covered in the classroom and on the job. Employers and apprentices have recourse if either party does not live up to the contract.

**To get started in an apprenticeship:**

1. Get a job in the field that you would like to apprentice.
2. Ask your employer if they have apprenticeship openings and/or if they would like to sponsor you.

3. After an employer agrees to sponsor you, complete an application and forward to your Bureau of Apprenticeship Standards (BAS) representative or trade committees.
4. Once your application is approved, your employer and the technical college receive a contract. The college will notify you of classes.

Each apprenticeship program has specific requirements for completing the application process. Interested individuals are encouraged to contact the Bureau of Apprenticeship Standards Office at 262-335-5849 for more information.

**APPRENTICESHIP**

# APPRENTICESHIP (CONT.)

## ABC Carpentry

**Apprenticeship: 50-410-9**

**4 years/6,416 total hours**

**(576 day school hours/5,840 work hours)**

Carpentry includes residential, commercial and industrial buildings and structures such as bridges and dams. In this trade, you will be involved with layout; concrete forming; wood and metal framing of walls, floors and roofs; window and door installation; and a wide variety of interior and exterior finish applications. You will also learn to use a variety of hand and power tools. Physically demanding indoor and outdoor work with variable weather conditions. Work may involve being below ground or working at various heights.

Course Number	Course Title	Credits
<b>Year 1</b>		
410-531	ABC Carpentry 1	2
410-532	ABC Carpentry 2	2
<b>Year 2</b>		
410-533	ABC Carpentry 3	2
410-534	ABC Carpentry 4	2
<b>Year 3</b>		
410-535	ABC Carpentry 5	2
410-536	ABC Carpentry 6	2
<b>Year 4</b>		
410-537	ABC Carpentry 7	2
410-538	ABC Carpentry 8	2
<b>Total</b>		<b>16</b>

An ABC Carpentry Exit Assessment is a graduation requirement for this program.

Required state paid instruction hours = 576.

### Suggested Related Electives (unpaid related)

410-305	Advanced Stair Construction	1
410-311	Construction Trades Blueprint Reading	1
410-302	Advanced Roof Framing	1
410-306	Wisconsin Uniform Dwelling Code	1
410-307	Construction Measurement and Layout	1
410-456	Rigging for Building Trades	.45
410-557	Estimating and Scheduling for Building Trades	.75
413-500	*OSHA 10 - Trades Safety	.50
442-322	Basic Welding Applications for Construction	1
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.20

Other unpaid-related courses may be taken with the approval of the Advisory Committee.

\*Required

## ABC Electrician

**Apprenticeship: 50-413-9**

**5 years/8,640 total hours**

**(720 day school hours/7,920 work hours)**

Electricians plan, diagram, install and repair electrical fixtures, apparatus and control equipment such as switches, relays and circuit breaker panels. They measure, cut, bend, thread, assemble and install electrical conduit (pipe or tubing), and pull wire through conduit. They test continuity of circuits to ensure compatibility and safety of components, using instruments such as the ohmmeter and electrical test meter.

Electricians assemble, install and wire electrical systems that operate heating, lighting, power, air conditioning and refrigeration components; electrical machinery; electronic equipment and controls; and signal and communications systems.

For safety, electricians must also be able to master the more than 800 detailed sections of the National Electrical Code designed to protect persons and property from hazards arising from the use of electricity. This job also requires electricians to have the ability to distinguish colors.

Course Number	Course Title	Credits
<b>Year 1</b>		
413-540	ABC Construction Electrician 1	2
413-541	ABC Construction Electrician 2	2
<b>Year 2</b>		
413-542	ABC Construction Electrician 3	2
413-543	ABC Construction Electrician 4	2
<b>Year 3</b>		
413-544	ABC Construction Electrician 5	2
413-545	ABC Construction Electrician 6	2
<b>Year 4</b>		
413-546	ABC Construction Electrician 7	2
413-547	ABC Construction Electrician 8	2
<b>Year 5</b>		
413-548	ABC Construction Electrician 9	2
413-549	ABC Construction Electrician 10	2
<b>Total</b>		<b>20</b>

An ABC Electrician Exit Assessment is a graduation requirement for this program.

Based on Moraine Park's curriculum design, actual program hours will be delivered at 720 hours. The state has required a minimum of 700 hours paid-related instruction. Additional unpaid-related hours are also required.

Course Number	Course Title	Credits
<b>Suggest Related Electives (unpaid related)</b>		
413-369	Electrical Maintenance and Troubleshooting	1
413-371	Electrical Estimating for Construction Trades	1
413-374	Advanced NEC, Construction Trade Apprentices	1
413-375	Electrical Blueprint Reading for Construction Trades	1
413-381	Intermediate NEC/Trades	2
413-390	Industrial Electricity 1 (Motor Control-JATC)	2
413-394	Basic Programmable Logic Controls	2
413-405	Electrical Code Update	.6
413-500	*OSHA 10 - Trades Safety	.5
442-322	Basic Welding Applications for Construction	1
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.15

Other unpaid-related courses may be taken with the approval of the Advisory Committee.

\*Required

## Barber/Cosmetologist

**Apprenticeship: 50-502-1**

**2 years/4,000 total hours**

**(288 day school hours/3,712 work hours)**

Barbers/cosmetologists cut, trim, shampoo and style hair. They advise patrons on how to care for their hair, straighten, permanent wave and apply color. In addition, most cosmetologists are trained to give manicures, pedicures, and scalp and facial treatments; provide makeup analysis; and clean and style wigs and hairpieces. Barbers/cosmetologists generally work in clean, pleasant surroundings with good lighting and ventilation. Good health and stamina are important because much of the workday will be spent standing. The barber/cosmetologist works with current fashion trends to create a total look for today's men, women and children.

Course Number	Course Title	Credits
<b>Year 1</b>		
502-501	Shampooing, Cutting, Styling and Permanent Waving	3
502-502	Relaxing, Coloring, Nails and Skin	3
<b>Year 2</b>		
502-503	Health, Image, Structure and Law	3
<b>Total</b>		<b>9</b>

Online delivery - Directed but not limited to students that may not have access to a school providing Cosmetology. A pre-online learning inventory is required prior to acceptance.

A Barber/Cosmetologist Exit Assessment is a graduation requirement for this program.

(continued)

## Barber/Cosmetologist (cont.)

A state of Wisconsin Licensing Exam is required.

Based on Moraine Park's curriculum design, actual program hours will be delivered at 324 hours. The state has required a minimum of 288 hours paid-related instruction. No unpaid-related hours are required.

Students will begin the semester directly following their indenture date. There are no prerequisites.

Course Number	Course Title	Credits
<b>Related Electives (unpaid related)</b>		
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20

\*Required

## Electrical Lineman

### Apprenticeship: 50-413-6

4 years/8,000 total hours  
(640 day school hours/7,360 work hours)

Electrical line workers study construction specifications to build and maintain power lines; they repair and maintain transformers, meters and energized lines; they operate vehicles and heavy equipment; and they locate line trouble, climb poles, use hot-line tools, and operate and maintain substations.

Course Number	Course Title	Credits
<b>Year 1</b>		
413-594	Electrical Line Worker Apprentice 1	4.5
<b>Year 2</b>		
413-595	Electrical Line Worker Apprentice 2	4.5
<b>Total</b>		<b>9.0</b>

An Electrical Lineman Exit Assessment is a graduation requirement for this program.

Year 1 and 2 instruction for Electrical Lineman is held at Moraine Park (320 hours). Year 3 and 4 is held at Chippewa Valley Technical College. The state has required a minimum of 550 hours of paid-related instruction.

#### Related Electives (unpaid related)

455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.20

\*Required

## Plumbing

### Apprenticeship: 50-427-5

5 years/8,000 total hours  
(500 day school hours/7,500 work hours)

Plumbers may work with water supply systems, waste water treatment, drainage systems and gas piping in both residential and commercial applications. Additional trade practices can include installation of bath and kitchen fixtures, service and repair work, code upgrades and remodeling.

Plumbers work in government agencies, public utilities, residences and industries. Many plumbers enjoy the independence of working alone, with full responsibility for designing and repairing plumbing systems.

Plumbers use pipe cutters, wrenches, reamers, power drills, power saws, hammers and other common hand tools. Power machines are often used to cut and thread pipes.

Course Number	Course Title	Credits
<b>Semester 1</b>		
427-561	Sanitary Drain and Vent Systems	2
<b>Semester 2</b>		
427-562	Vents and Venting Systems	2
<b>Semester 3</b>		
427-563	Drainage System Components	2
<b>Semester 4</b>		
427-564	Plumbing: Water Distribution	2
<b>Semester 5</b>		
427-565	Private On-Site Wastewater Treatment Systems 1	2
<b>Semester 6</b>		
427-566	Private On-Site Wastewater Treatment Systems 2	2
<b>Semester 7</b>		
427-567	Plumbing: Advanced Topics	2
<b>Semester 8</b>		
427-568	Plumbing Review	2
<b>Total</b>		<b>16</b>

A Plumbing Exit Assessment is a graduation requirement for this program.

State of Wisconsin licensing exam is required.

#### Suggested Related Electives (unpaid related)

413-500	*OSHA 10 - Trades Safety	.50
427-513	Private Water Supply - Self-Directed	.75
427-342	Isometric Drawing	1
427-350	Plumbing Applications	1
427-357	Plumbing Blueprint Reading	1
427-369	Plumbing Service and Repair	2
427-559	Plumbing History, Self-Directed	.70
427-570	Drawing State-Approved Plumbing Plans	1
427-586	Transit and Level for Plumbers	.75
442-322	Welding for Apprentices	1

Course Number	Course Title	Credits
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.20

Other unpaid-related courses may be taken with the approval of the Advisory Committee.

Required hours for completion are 500 hours of paid-related (day school) and 260 hours of unpaid-related (night school or elective offerings).

Apprenticeship Application and Requirements: Students may apply to more than one committee.

\*Required

## Steamfitting

### Apprenticeship: 50-435-2

5 years/8,000 total hours  
(540 day school hours/7,460 work hours)

Steamfitters assemble, install and maintain pipes to carry water, steam, compressed air, gases and fluid needed for processing, manufacturing, heating and cooling. They adapt and repair pipe systems; install appliances, heating and refrigeration units; and weld pipes. Steamfitter mechanics troubleshoot, diagnose and repair components of heating/cooling systems and refrigeration units.

Course Number	Course Title	Credits
<b>Year 1</b>		
435-570	Apprentice Steamfitting 1	2
435-571	Apprentice Steamfitting 2	2
<b>Year 2</b>		
435-572	Apprentice Steamfitting 3	2
435-573	Apprentice Steamfitting 4	2
<b>Year 3</b>		
435-574	Apprentice Steamfitting 5	2
435-575	Apprentice Steamfitting 6	2
<b>Year 4</b>		
435-576	Apprentice Steamfitting 7	2
435-577	Apprentice Steamfitting 8	2
<b>Total</b>		<b>16</b>

A Steamfitting Exit Assessment is a graduation requirement for this program.

Required state paid instruction hours = 576.

#### Related Electives (unpaid related)

413-500	*OSHA 10 - Trades Safety	.50
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.20

\*Required

# APPRENTICESHIP (CONT.)

## Steamfitting Service

**Apprenticeship: 50-435-4**

**5 years/8,000 total hours**

**(540 day school hours/7,460 work hours)**

Steamfitting service mechanics adapt and repair pipe systems; install appliances, heating and refrigeration units; and weld pipes. They troubleshoot, diagnose and repair components of heating and cooling systems and refrigeration units. System controls and diagnostic procedures are emphasized.

Course Number	Course Title	Credits
<b>Year 1</b>		
435-521	Steamfitter Service 1	2
435-522	Steamfitter Service 2	2
<b>Year 2</b>		
435-523	Steamfitter Service 3	2
435-524	Steamfitter Service 4	2
<b>Year 3</b>		
435-525	Steamfitter Service 5	2
435-526	Steamfitter Service 6	2
<b>Year 4</b>		
435-527	Steamfitter Service 7	2
435-528	Steamfitter Service 8	2
<b>Total</b>		<b>16</b>

A Steamfitting Service Exit Assessment is a graduation requirement for this program.

Required state paid instruction hours = 576.

### Related Electives (unpaid related)

413-500	*OSHA 10 - Trades Safety	.50
455-455	*Transition to Trainer, Your Role as a Journeyworker	.20
531-465	*Heartsaver First Aid/CPR	.20

\*Required

## Technical Studies - Journeyworker

**Associate of Applied Science Degree: 10-499-5**

This associate of applied science degree program is designed for journeyworkers from various trades who are interested in continuing their education and earning a degree customized to their career interests. Thirty-nine credits are granted toward the degree, based upon completion of a Wisconsin Journey certificate that includes 400 or more hours of instruction.

With a college advisor, the journeyworker identifies the knowledge and skills required achieving specific career goals. Existing courses become components of the journeyworker's program of study. Selected coursework may be taken during the duration of the apprenticeship.

The 21-credit general studies required coursework is transferable to many 4-year institutions.

**Course Number Course Title Credits**  
**This associate of applied science degree is for completers of Apprenticeship programs only.**

**Wisconsin Journey Level Certificate 39**

39 credits of advanced standing are granted for 400 hours of apprenticeship-related training. Based on 6,048 hours of on-the-job training.

**General Studies Courses 21**

**Math 3**

**Communications (select at least two) 6**

801-195 Written Communication 3

801-196 Oral and Interpersonal Communication (or) 3

801-197 Technical Reporting (Prerequisite: Written Communication) (or) 3

801-198 Speech 3

**Social Science (select at least one in addition to Introduction to Ethics) 6**

809-166 Introduction to Ethics: Theory and Application (required) 3

809-195 Economics (or) 3

809-196 Introduction to Sociology (or) 3

809-197 Contemporary American Society 3

**Behavioral Science (select one) 3**

809-198 Introduction to Psychology (or) 3

809-199 Psychology of Human Relations

The remaining three General Education credits to be determined with academic advisor.

**Total Program Credits 60**

Note: A minimum of 25 percent of total program requirements must be earned at the technical college from which you will receive your degree.

A Technical Studies - Journeyworker Exit Assessment is a graduation requirement for this program.

**Institutional Requirements (required for all degree students)**

890-125 Student Success - take **1st** semester

103-159 Computer Literacy /Advanced Standing - take **1st** semester

890-130 Career Development - take **3rd** semester

## Tool and Die Technologies

**Apprenticeship: 50-439-4**

**3-4 years/10,400 total hours**

**(600 day school hours/9,800 work hours)**

Work in the machine tool trades incorporates a high degree of precision in the creation of various parts, fixtures and products utilized in the industry. Once primarily a metalworking trade, tool and die machining is now included in the plastics and wood industries. Almost all products used today have been influenced by the tool and die industry. From design specification and drawings, skilled workers in the tool and die/machine trades utilize power machining tools, hand tools, and computer-driven machines to create desired products.

Course Number	Course Title	Credits
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### First Semester - Fall 2009-2010

420-565 Computer Numerical Control 1.5

420-561 Jigs and Fixtures .5

421-555 Blueprint Reading 1

804-582 Mathematics 1 (or) 1

804-584 Mathematics 3

### Second Semester - Spring 2009-2010

420-571 Sinker/Wire EDM 1.5

420-572 3D CAD 1.5

804-583 Mathematics 2 (or) 1

804-585 Mathematics 4

### Third Semester - Fall 2010-2011

420-520 Mold Making 1

420-563 Machine Technology 1

420-580 2D CAD 1

804-582 Mathematics 1 (or) 1

804-584 Mathematics 3

### Fourth Semester - Spring 2010-2011

420-579 Introduction to Computer-Aided Manufacturing 1

420-586 Die Making 1

422-505 Metallurgy 1

804-583 Mathematics 2 (or) 1

804-585 Mathematics 4

**Total 16**

A Tool and Die Technologies Exit Assessment is a graduation requirement for this program.

Required state paid instruction hours = 576.

### Related Electives (unpaid related)

455-455 \*Transition to Trainer, Your Role as a Journeyworker .20

531-465 \*Heartsaver First Aid/CPR .20

\*Required

## Air Conditioning, Heating and Refrigeration Technology

**Associate of Applied Science Degree:  
10-601-1**

The rapid regulation of the air conditioning, heating and refrigeration industry means high demand for qualified and certified technicians for residential and commercial applications.

The Heating, Ventilating, Air Conditioning and Refrigeration (HVAC/R) program teaches students how to install, repair and perform preventative maintenance for heating, air conditioning and refrigeration equipment. Coursework emphasizes efficient operation of equipment to ensure the lowest possible energy cost that the design allows. Students integrate the electronic controls from the equipment to the building or computer-operated environmental network. In addition, students study how to make the indoor living environment comfortable, air balancing, occupant comfort conditions, and indoor air quality testing.

This program offers extensive hands-on training. Students work with residential furnaces and air conditioning units and learn about commercial heating and cooling and building equipment, such as chillers, and refrigeration equipment, such as icemakers, walk-in freezers and many other pieces of equipment.

HVAC/R technicians should be good analytical thinkers and problem solvers.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
419-105	Introduction to Pneumatic and Programmable Logic Controllers	2
601-107	Electricity and Electronics HVAC	3
601-108	Heating, Ventilation and Air Conditioning (HVAC) Schematics	2
601-109	HVAC/R Code	1
601-116	Hydronic Environmental Systems	3
601-118	Air Distribution	2
601-120	Fundamentals of Refrigeration	2
601-121	Refrigeration Service Techniques	2
601-122	Residential Air Conditioning	3
601-123	Residential Heating Systems	3
601-127	Fundamentals of Building Controls	2
601-128	Building Control Systems Applications	3
601-129	Commercial Food Service Refrigeration	3
601-130	Supermarket Refrigeration	3
601-132	Indoor Air Quality	2
601-134	Commercial Heating and Air Conditioning	4

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics (or)	3
804-113	College Technical Mathematics 1A	
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>67</b>

An Air Conditioning, Heating and Refrigeration Technology Exit Assessment is a graduation requirement for the program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

## Building Trades Construction Worker

**Technical Diploma: 31-475-2**

The Building Trades Construction Worker technical diploma program provides theoretical and hands-on applications in development skills needed to successfully enter the construction/building trades industry. Areas of emphasis include building trade practices, blueprint reading, trade-specific mathematics, measurement and layout, welding and cutting, mechanical and electrical applications, carpentry, tool use, computer-aided design, computer literacy, first aid, safety, and communications. Graduates may consider entering a state-approved apprenticeship program coordinated through the Department of Workforce Development, Bureau of Apprenticeship Standards or directly enter the construction industry.

Course Number	Course Title	Credits
<b>Core Courses</b>		
461-321	Small Engine Maintenance and Repair	1
475-350	Safety Applications	2
475-351	Building Trades Fundamentals	5
475-352	Framing Construction	5
475-353	Exterior Finish	5
475-354	Interior Finish	5
475-355	Building Trades Mechanical Systems	3
475-356	Concrete Masonry Applications	2

Course Number	Course Title	Credits
<b>Technical Support Courses</b>		
106-138	Computer Essentials	2
442-314	Basic Welding	1
617-116	AutoCAD, Beginning Level	2
801-310	Occupational Communication	2
804-360	Occupational Mathematics 1	2
<b>Total</b>		<b>37</b>

A Building Trades Construction Worker Exit Assessment is a graduation requirement for this program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>2nd</b> semester	

## Civil Engineering Technician – Structural

**Associate of Applied Science Degree:  
10-607-5**

The Civil Engineering Technician - Structural program develops the knowledge and experience in planning and design skills to support the construction industry. Students apply computer-aided design and drafting (CADD) as it relates to architectural and related design. In addition to strong computer skills, students need strong math, spatial and analytical skills to meet the demands of the engineering coursework.

Graduates work for civil engineering firms, architectural firms, contractors, surveyors, municipalities and public utilities.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
607-110	Civil Drafting Fundamentals	4
607-112	Architectural Drafting	5
607-114	Structural Drafting	4
607-122	Mechanical Construction	3
607-123	Construction Estimating	3
607-131	Structural Analysis 1	3
607-132	Structural Analysis 2	3
607-135	Construction Surveying	3
607-137	Site Investigation	3
607-138	Soils	2
607-150	Technical Problems	3
607-176	AutoCAD I	3

<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
804-116	College Technical Mathematics 2	4
809-166	Introduction to Ethics: Theory and Application	3

(continued)

# ARCHITECTURE AND CONSTRUCTION (CONT.)

## Civil Engineering Technician – Structural (cont.)

Course Number	Course Title	Credits
809-195	Economics	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>69</b>

A Civil Engineering Technician - Structural Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Commercial HVAC Certificate

### Certificate: 97-601-4

Moraine Park's Commercial HVAC (Heating, Ventilating and Air Conditioning) Certificate provides students with the hands-on training to do a variety of work in air conditioning, ventilation, air balancing, indoor air quality testing and heating systems. As graduates, they perform installations, make repairs and perform other maintenance functions in rooftop units, building controls, DDC energy management systems, package HVAC equipment, chillers and air conditioners.

Successful people in the field are in good physical condition, are neat in appearance, have good customer skills, have good mechanical and electrical aptitude, and possess good analytical skills.

Graduates of this certificate may directly transfer their credits into Moraine Park's Air Conditioning, Heating and Refrigeration Technology associate of applied science degree if they wish to continue their education.

Course Number	Course Title	Credits
<b>Core Courses</b>		
419-105	Introduction to Pneumatic and Programmable Logic Controllers	2
601-108	Heating, Ventilation and Air Conditioning (HVAC) Schematics	2
601-109	HVAC/R Code	1
601-116	Hydronic Environmental Systems	3
601-118	Air Distribution	2
601-128	Building Control Systems Applications	3

Course Number	Course Title	Credits
601-132	Indoor Air Quality	2
601-134	Commercial Heating and Air Conditioning	4
<b>Total</b>		<b>19</b>
Must have completed the prerequisites below or have advanced standing:		
601-107	Electricity and Electronics HVAC	3
601-120	Fundamentals of Refrigeration	2
601-122	Residential Air Conditioning	3
601-123	Residential Heating Systems	3
601-127	Fundamentals of Building Controls	2

## Commercial Refrigeration Certificate

### Certificate: 97-601-2

Moraine Park's Commercial Refrigeration Certificate provides students with the theory and hands-on training in the operation, system design and component application, installation and start-up, preventative maintenance, and service repair of commercial refrigeration systems and equipment.

Graduates may work in the commercial refrigeration industry in one or more of the following areas:

- > Service and installation of food and beverage refrigeration equipment
- > Service and installation of supermarket equipment
- > Service and repair of special refrigeration systems

Successful people in this field are in good physical condition, are neat in appearance, have good mechanical and electrical aptitude, and possess good analytical skills.

Graduates must pass the EPA refrigerant-handling certification and the Industry Competency Exam (ICE).

Graduates of this certificate may directly transfer their credits into Moraine Park's Air Conditioning, Heating and Refrigeration Technology associate of applied science degree if they wish to continue their education.

Course Number	Course Title	Credits
<b>Core Courses</b>		
601-107	Electricity and Electronics HVAC	3
601-108	HVAC Schematics	2
601-109	HVAC/R Code	1
601-120	Fundamentals of Refrigeration	2
601-121	Refrigeration Service Techniques	2
601-129	Commercial Food Service Refrigeration	3
601-130	Supermarket Refrigeration	3
<b>Total</b>		<b>16</b>

## Electrical Power Distribution

### Technical Diploma: 31-413-2

The Electrical Power Distribution program provides theoretical and hands-on training in all phases of power line construction and maintenance. Individuals must have: the ability to work in a diverse work environment, the ability to work at heights and in all weather conditions, good eyesight and hearing, and manual dexterity to be successful in a career as a line mechanic. A Class A Commercial Driver's License (CDL) is included in the program.

This technical diploma program prepares students for entry-level employment as line technician trainees for electrical utilities, telephone companies and related businesses. Graduates of the program may enter their employer's apprentice program.

Course Number	Course Title	Credits
<b>Core Courses</b>		
413-103	Commercial Driver's License (CDL) Preparation	1
413-307	Electrical Theory and Safety 1	3
413-310	Line Technician	5
413-311	Line Technician	5
413-312	Line Technician	5
413-317	Electrical Theory and Safety 2	3
<b>Technical Support Courses</b>		
801-310	Occupational Communication	2
804-363	Algebraic Applications for Electrical Trades	2
806-375	Applied Science	2
809-300	Occupational Success Strategies	2
<b>Total</b>		<b>35</b>

An Electrical Power Distribution Exit Assessment is a graduation requirement for this program.

Students will need a physical prior to beginning this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

# ARCHITECTURE AND CONSTRUCTION (CONT.)

## Electricity

### Technical Diploma: 31-413-1

Moraine Park's Electricity program provides students with the concepts of and extensive hands-on training in general electrical applications. Coursework develops basic knowledge and skills in residential, commercial and industrial electricity to prepare them for a career path in any of the three areas. In addition, students learn trade-specific mathematics, safety, electrical code, electrical theory, construction trades blueprint reading, and basic programmable logic controls.

The program is designed to help graduates enter the State Electrical Apprenticeship program through the Department of Workforce Development, Bureau of Apprenticeship Standards. Graduates are also prepared for employer-sponsored training programs.

Course Number	Course Title	Credits
<b>Core Courses</b>		
413-350	Beginning Electrical Concepts	2
413-351	Advanced Electrical Concepts	2
413-355	Residential and Commercial Wiring Concepts	3
413-360	Introduction to National Electrical Code	2
413-361	Intermediate National Electrical Code	2
413-363	OSHA Safety Construction Trades	1
413-365	Basic Motor Controls	3

Course Number	Course Title	Credits
413-370	Construction Trades Blueprint Reading	2
413-380	Industrial Wiring Concepts	3
413-385	Electrical Fabrication	2
413-386	Trends in Electricity	1

<b>Technical Support Courses</b>		
801-310	Occupational Communication	2
804-107	College Mathematics	3
804-113	College Technical Mathematics 1A	3
<b>Total</b>		<b>31</b>

An Electricity Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## ARTS, AV TECHNOLOGY AND COMMUNICATIONS

## Electronic Publishing Certificate

### Certificate: 97-204-2

This certificate helps students develop beginning-level electronic publishing skills. Students learn the software functions of Adobe Photoshop, Adobe Illustrator and InDesign software. Basic typographic and graphic design techniques are presented as well as an overview to the graphic communications field. This certificate is designed for individuals who are interested in acquiring entry-level skills for the graphic communications field. The coursework appeals to people who enjoy working with computer software and applying these software skills to graphic design projects.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-170	Beginning Photoshop	2
103-174	InDesign	2
111-101	Introduction to Graphic Communication	3
204-111	Typography	3
204-131	Electronic Photographics With Photoshop	3
204-141	Electronic Illustration With Adobe Illustrator	2
204-165	Principles of Graphic Design	2
<b>Total</b>		<b>17</b>

## Graphic Communications

### Associate of Applied Science Degree: 10-204-3

The Graphic Communications program combines the creativity of graphic design and the technology of **digital media** to prepare graduates for careers in graphic communications. Emphasis is placed on the use of the graphic design software to generate text, graphics and photos to create digital media for use in newsletters, flyers, display ads, forms, manuals, brochures and Web-based documents. First-year students work primarily online building design and layout skills using a variety of graphic production software. Second-year students continue to develop these skills through hands-on, classroom-based production experiences.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
103-170	Beginning Photoshop	2
103-172	QuarkXPress	2
103-174	InDesign	2
104-160	Marketing Basics	1
106-138	Computer Essentials	2
111-101	Introduction to Graphic Communications	3
152-107	Graphics for the Web	2
196-189	Team Building and Problem Solving	3
204-111	Typography	3
204-121	Publishing Principles	2
204-131	Electronic Photographics With Photoshop	3
204-141	Electronic Illustration With Adobe Illustrator	2
204-144	Electronic Illustration 2 With Vector Graphics	3
204-163	Acrobat PDF	2

Course Number	Course Title	Credits
204-165	Principles of Graphic Design	2
204-166	Graphic Design for Printing	3
204-181	Prepress Process (Color)	3

### Prepress Track

204-171	Prepress Production and Planning: Workflow	3
204-172	Prepress Production and Planning 2 With Digital Output	3

### Design Track

204-134	Design Production and Planning: Workflow	3
204-168	Design Production and Planning 2 With Digital Output	3

Students are required to take 2 of the 4 track courses listed above.

### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-199	Psychology of Human Relations	3
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-195	Economics	3

Students must choose an additional three credits of electives.

<b>Total</b>		<b>70</b>
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A Graphic Communications Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester



# ARTS, AV TECHNOLOGY AND COMMUNICATIONS (CONT.)

## Printing and Publishing

**Associate of Applied Science Degree:  
10-204-1**

Graduates of the Printing and Publishing program are employed by printers that employ digital, offset, Web or sheetfed printing technologies. Their job titles may include Press System Technician, Digital Printing Technician, Finishing System Technician, Estimating Representative, Print Distribution Technician, Customer Service Representative or Print Shop Technician. Print shops where graduates would be employed may vary in size from a few employees to several thousand employees. Therefore, individuals may be generalists and operate a variety of printing and finishing equipment as well as perform customer service and estimating functions, or they may be a specialist operating one type of printing or

finishing system. Individuals in these positions must possess strong communication skills, team-building and problem-solving skills, and computer skills, and they must be able to work independently as well as be reliable employees.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
103-170	Beginning Photoshop	2
106-122	Customer Service Applications	2
111-101	Introduction to Graphic Communication	3
196-189	Team Building and Problem Solving	3
204-121	Publishing Principles	2
204-185	Press Technologies 1	3
204-186	Press Technologies 2	3
204-187	Postpress Technology - Finishing and Binding	2
204-188	Color Theory	3
204-189	Introduction to Printing Estimating	3
204-190	Digital Printing Concepts	3
204-191	Postpress Technology - Distribution	3
204-192	Press Internship	3
204-193	Postpress Internship	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
801-198	Speech	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>65</b>

A Printing and Publishing Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take 1st semester
103-159	Computer Literacy /Advanced Standing - take 1st semester
890-130	Career Development - take 3rd semester

# BUSINESS, MANAGEMENT AND ADMINISTRATION

## Administrative Professional

**Associate of Applied Science Degree:  
10-106-6**

In the age of technology, the role of the administrative assistant has broadened not only to include the administrative and office functions needed to run an organization efficiently but also to possess a solid foundation in the technological equipment that supports these functions.

Moraine Park's Administrative Professional coursework prepares students to provide customer service, produce business communications, manage projects, plan meetings and events, and perform an array of other office responsibilities. Students also develop high-level skills in common software applications such as databases and spreadsheets.

They find employment in industrial/manufacturing, service, educational, insurance, sales, human resources and government settings. Administrative assistants enjoy working with others, have good oral and written communication skills, possess strong organizational skills, and project a professional attitude and image.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
106-111	Business Communications	3
106-112	Information Storage and Retrieval	2
106-113	Business Publications	3
106-120	Document Processing	1
106-121	Advanced Document Processing	1
106-122	Customer Service Applications	2
106-123	Editing Applications	1
106-134	Communication Technologies	3
106-138	Computer Essentials	2
106-139	Business Proofreading Skills	2
106-142	Business Meeting and Event Planning	3
106-159	Advanced Microsoft Word	2
106-163	Database and Spreadsheet Essentials	2
106-164	Business Applications for Microsoft Office	3
106-165	Business Office Essentials	3
106-180	Business Protocol	3
196-189	Team Building and Problem Solving	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>66</b>

An Administrative Professional Exit Assessment is a graduation requirement for this program.

Note: Students with prior keyboarding experience must take a keyboarding placement/advanced standing test prior to enrolling in the Document Processing (106-120) course.

Students with **no** prior keyboarding experience will enroll in the Keyboarding (106-103) course prior to enrolling in the Document Processing (106-120) course.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Advanced Office Software Suite Certificate

**Certificate: 97-103-3**

Students in this advanced certificate series gain knowledge and skills in the following office software:

- > Advanced word processing
- > Advanced spreadsheet, worksheet and workbook
- > Advanced database creation and manipulation
- > Advanced presentation application
- > Linking and embedding capabilities

(continued)

## Advanced Office Software Suite Certificate (cont.)

This ten-credit advanced certificate provides training in advanced Microsoft Office applications, including Word, Excel, Access, PowerPoint and integration between these programs.

The Advanced Office Software Suite Certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program and the credits may later be applied toward a degree or diploma. This certificate complements many Moraine Park degree and diploma programs.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-164	Advanced Microsoft Integration	2
103-183	Advanced Microsoft PowerPoint	2
103-188	Advanced Microsoft Access	2
103-190	Advanced Microsoft Excel	2
106-159	Advanced Microsoft Word	2
<b>Total</b>		<b>10</b>

## Business Management

### Associate of Applied Science Degree: 10-102-3

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
103-195	Microsoft Project	2
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
106-111	Business Communications	3
106-122	Customer Service Applications (or)	2
102-101	Customer Service Essentials	2
106-163	Database and Spreadsheet Essentials	2
154-101	e-Commerce Management Decisions	3
196-189	Team Building and Problem Solving	3
196-191	Supervision	3
196-192	Managing for Quality	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>64</b>

A Business Management Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Business Management

### Customer Service

#### Associate of Applied Science Degree: 10-102-3A

### Program Description

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

### Specialty Description

This Specialty prepares students for entry-level customer service positions such as customer service representative or an inside sales representative. The coursework offers a foundation in computer skills typically used in customer service careers as well as develops the skills and techniques focused on meeting customer wants and needs. Individuals interested in this field should enjoy providing information to and resolving issues for customers whether it is in person, using the telephone or on the Internet. They must also enjoy working with a computer to input and access electronic data.

You can also consider:  
 Management and Supervision  
 Human Resources Specialty  
 Entrepreneurship for Small Business Specialty  
 Office Software Specialist

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
102-101	Customer Service Essentials	2
103-195	Microsoft Project	2
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
106-111	Business Communications	3
106-112	Information Storage and Retrieval	2
106-120	Document Processing	1
106-134	Communication Technologies	3
106-163	Database and Spreadsheet Essentials	2
106-180	Business Protocol	3
196-189	Team Building and Problem Solving	3
196-191	Supervision	3

### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3

Students must choose an additional three credits of electives.

**Total** **64**

A Business Management Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Business Management

### Office Software Specialist

#### Associate of Applied Science Degree: 10-102-3B

### Program Description

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

(continued)

# BUSINESS, MANAGEMENT AND ADMINISTRATION (CONT.)

## Business Management (cont.)

### Office Software Specialist

#### Specialty Description

Students in this specialty series gain advanced knowledge and skills in the following office software:

- > Windows
- > Word processing
- > Database
- > Spreadsheet
- > Presentation graphics
- > Linking and embedding capabilities

This specialty provides training in Microsoft Windows operating system, Word, Access, Excel and PowerPoint software packages, as well as integration of these applications.

You can also consider:

- Management and Supervision
- Human Resources Specialty
- Entrepreneurship for Small Business Specialty
- Customer Service

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
102-101	Customer Service Essentials	2
103-160	Microsoft Word	2
103-164	Advanced Microsoft Integration	2
103-180	Microsoft Excel	2
103-181	Microsoft Access	2
103-182	Microsoft PowerPoint	2
103-188	Advanced Microsoft Access	2
103-189	Microsoft Windows	1
103-190	Advanced Microsoft Excel	2
103-195	Microsoft Project	2
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
106-159	Advanced Microsoft Word	2
196-189	Team Building and Problem Solving	3
196-191	Supervision	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>70</b>

A Business Management Exit Assessment is a graduation requirement for this program.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Business Management

### Entrepreneurship for Small Business

#### Specialty

#### Associate of Applied Science Degree: 10-102-3C

#### Program Description

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

#### Specialty Description

The Entrepreneurship for Small Business Specialty is designed for people interested in exploring the components of small business start-up and operation. Coursework provides new and existing entrepreneurs hands-on training in the areas of business planning, financing, marketing, customer service, financial management and business communications. The specialty is comprised of five, three-credit courses, which concludes with writing a Business Plan.

You can also consider:

- Management and Supervision
- Human Resources Specialty
- Customer Service
- Office Software Specialist

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
103-195	Microsoft Project	2
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
106-163	Database and Spreadsheet Essentials	2
145-185	Organizing Your Small Business	3
145-186	Financial Management for Your Small Business	3
145-187	Marketing Your Small Business	3

Course Number	Course Title	Credits
145-188	Entrepreneurial Management	3
145-189	Writing a Business Plan for Your Small Business	3
196-189	Team Building and Problem Solving	3
196-191	Supervision	3

#### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3

Students must choose an additional two credits of electives.

**Total 64**

A Business Management Exit Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take 1st semester
103-159	Computer Literacy /Advanced Standing - take 1st semester
890-130	Career Development - take 3rd semester

## Business Management

### Human Resources Specialty

#### Associate of Applied Science Degree: 10-102-3D

#### Program Description

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

#### Specialty Description

The Human Resources Specialty focuses on the skills required to specialize in the field of human resources management. Seven courses complete the series. The courses cover topics in employee communication, recognition and conflict resolution; methods to recruit and hire the best employees; tools for conducting orientation; programs and training strategies; and various components of compensation and benefit packages. These classes are offered in the accelerated format and are designed for employed adults. Classes meet for six weeks, four hours per week. Extensive out-of-class work is required.

(continued)

## Business Management (cont.)

### Human Resources Specialty

You can also consider:

- Management and Supervision
- Entrepreneurship for Small Business Specialty
- Customer Service
- Office Software Specialist

Course Number	Course Title	Credits
<b>Core Courses</b>		
101-108	Accounting for Non-Accountants	3
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
196-134	Legal Issues for Supervisors	3
196-136	Safety in the Workplace	3
196-151	Employee Relations	3
196-152	Orientation and Training	3
196-153	Compensation and Benefits	3
196-154	Recruiting and Hiring	3
196-189	Team Building and Problem Solving	3
196-191	Supervision	3
196-193	Human Resource Management	3

<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3

Students must choose an additional two credits of electives.	2
<b>Total</b>	<b>64</b>

A Business Management Exit Assessment is a graduation requirement for this program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

## Business Management

### Management and Supervision

#### Associate of Applied Science Degree:

**10-102-3E**

#### Program Description

The Business Management program is designed for individuals who are seeking an entry-level business-related position, pursuing self-employment or seeking a job change or advancement. Students receive a broad background in business fundamentals with specific skills in managing operations, marketing, accounting, supervision

and computer software applications. Teamwork, problem solving, communication skills and ethical behavior are emphasized as well.

#### Specialty Description

The Management and Supervision specialty provides you with the skills and knowledge necessary to be a successful leader in today's fast changing work environment. The program is designed to train and educate you in supervisory and management skills in service, manufacturing and nonprofit organizations. You will develop skills in leadership, human resources, teamwork, quality, finance, marketing, operations, labor relations/business law, employee training, problem solving and safety. In addition, you will develop communication skills in writing and speaking.

You can also consider:

- Human Resources Specialty
- Entrepreneurship for Small Business Specialty
- Customer Service
- Office Software Specialist

Course Number	Course Title	Credits
<b>Core Courses</b>		
101-108	Accounting for Non-Accountants	3
102-101	Customer Service Essentials	3
103-195	Microsoft Project	2
104-102	Marketing Principles	4
105-120	Business Organization	3
105-155	Career Internship, Business and Culinary Arts (162 hrs.)	3
105-160	Business Law	3
106-163	Database and Spreadsheet Essentials	2
154-101	e-Commerce Management Decisions	3
196-164	Personal Skills for Supervisors	3
196-189	Team Building and Problem Solving	3
196-190	Leadership Development	3
196-191	Supervision	3
196-192	Managing for Quality	3

<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3

Students must choose an additional two credits of electives.	2
<b>Total</b>	<b>64</b>

A Business Management Exit Assessment is a graduation requirement for this program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

## Customer Service Certificate

**Certificate: 97-106-5**

This certificate prepares students for entry-level customer service positions such as customer service representative or receptionist.

The coursework offers a foundation in computer skills typically used in customer service careers as well as develops the skills and techniques focused on meeting customer wants and needs.

Individuals interested in this field should enjoy providing information to and resolving issues for customers whether it is in person, using the telephone or on the Internet. They must also enjoy working with a computer to input and access electronic data.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-159	Computer Literacy - Microsoft Office	1
103-165	Exploring the Internet With Client Software	1
106-112	Information Storage and Retrieval	2
106-120	Document Processing	1
106-122	Customer Service Applications	2
801-196	Oral and Interpersonal Communication	3
890-125	Student Success	1
<b>Total</b>		<b>11</b>

Note: Students with keyboarding experience must take a keyboarding placement/advanced standing test prior to enrolling in the Document Processing course (106-120).

Students with **no** keyboarding experience enroll in the Keyboarding course (106-103) prior to enrolling in the Document Processing course.

## Entrepreneurship for Small Business Certificate

**Certificate: 97-145-1**

The Entrepreneurship for Small Business Certificate is designed for people interested in exploring the components of small business start-up and operation. Coursework provides new and existing entrepreneurs hands-on training in the areas of business planning, financing, marketing, customer service, financial management and business communications.

The certificate is comprised of five, three-credit courses, which concludes with Writing a Business Plan.

*(continued)*

## Entrepreneurship for Small Business Certificate (cont.)

Course Number	Course Title	Credits
<b>Core Courses</b>		
145-185	Organizing Your Small Business	3
145-186	Financial Management for Your Small Business	3
145-187	Marketing Your Small Business	3
145-188	Entrepreneurial Management	3
145-189	Writing a Business Plan for Your Small Business	3
<b>Total</b>		<b>15</b>

## Global Business Certificate

### Certificate: 97-138-1

This certificate provides students with a global business background including international marketing and financial awareness, documentation skills, and a better understanding of other cultures and their business climates. The coursework is designed to broaden student knowledge of the global economy and international trade, including import procedures, export compliance issues and trade agreements, and it prepares graduates to sit for NASBITE's Certified Global Business Professional Exam.

The certificate is designed for adults currently working in business engaged in global trade or considering expansion into international markets. It leads to the industry-recognized NASBITE certification and adds value for individuals who already have their Marketing or Leadership Development associate of applied science degrees.

The certificate is comprised of five accelerated courses offered on Thursday evenings, and it can be completed in one school year.

Course Number	Course Title	Credits
<b>Core Courses</b>		
104-111	International Marketing	3
138-150	Global Business Management	3
138-160	Global Supply Chain Management	3
138-180	Global Trade Finance	3
140-190	International Study	3
<b>Total</b>		<b>15</b>

## Human Resource Development Certificate

### Certificate: 97-196-1

This certificate establishes a foundation for developing employee effectiveness by focusing on the supervisor's role in understanding, communicating and implementing organizational policies. Coursework entails: employment law; skills and tools to enhance employee performance, motivation and development; and workplace safety and health programs.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward an associate of applied science degree if the student desires. In addition, graduates or students currently enrolled in a program may find they have already completed some of the certificate's requirements.

These classes are offered in the accelerated format and are designed for employed adults. Classes meet for six weeks, four hours per week. Extensive out-of-class work is required.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-134	Legal Issues for Supervisors	3
196-136	Safety in the Workplace	3
196-193	Human Resource Management	3
<b>Total</b>		<b>9</b>

## Human Resources Advanced Technical Certificate

### Advanced Technical Certificate: 98-196-1

This certificate focuses on the skills required to specialize in the field of human resources management. Four courses complete the series.

The four courses cover topics in employee communication, recognition and conflict resolution; methods to recruit and hire the best employees; tools for conducting orientation programs and training strategies; and various components of compensation and benefit packages.

Courses are offered weekends at the Beaver Dam and Fond du Lac campuses in an accelerated format and are designed for working adults.

Classes meet for six weeks, four hours per week. Extensive out-of-class work is required.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-151	Employee Relations	3
196-152	Orientation and Training	3
196-153	Compensation and Benefits	3
196-154	Recruiting and Hiring	3
<b>Total</b>		<b>12</b>

## Leadership Development

### Associate of Applied Science Degree: 10-196-1

The Leadership Development program offers training in leadership; human relations; budgeting; quality, legal and safety issues; problem solving and team building; and diversity and change management. The role of the traditional supervisor is changing, and the new supervisor must be able to balance employee participation with the need to meet established goals.

This program is offered in an accelerated format and is designed for employed adults. Each class runs six weeks and meets once each week for four hours. Courses are offered at all three campuses with sections available mornings, evenings and online. Core courses are offered at scheduled times, while support, general studies and electives courses may be taken at any time. Extensive out-of-class work is required. Courses within the program can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-184	Business Finance and Budgeting	3
102-182	Business Operations	3
103-180	Microsoft Excel (or)	2
103-182	Microsoft PowerPoint	
196-134	Legal Issues for Supervisors	3
196-136	Safety in the Workplace	3
196-164	Personal Skills for Supervisors	3
196-168	Organizational Development	3
196-169	Diversity and Change Management	3
196-188	Project Management	3
196-189	Team Building and Problem Solving	3
196-190	Leadership Development	3
196-191	Supervision	3
196-192	Managing for Quality	3
196-193	Human Resource Management	3

(continued)

# BUSINESS, MANAGEMENT AND ADMINISTRATION (CONT.)

## Leadership Development (cont.)

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting (or)	
801-198	Speech	
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>65</b>

A Leadership Development Exit Assessment (997-148) is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Legal Administrative Professional

### Associate of Applied Science Degree: 10-106-3

The Legal Administrative Professional program prepares students to provide client services; produce and coordinate legal communications, documents and information; and organize and maintain files. The coursework focuses on concepts, procedures and skills specific to the legal environment.

Individuals interested in this career are detail-oriented, have strong communication skills and enjoy working with others.

Graduates are employed in private law firms, the court system, government offices, financial trust departments or private industry. They work in a variety of law fields including bankruptcy, business and corporate, criminal, divorce and family, government, trademark and copyright, real estate, civil litigation, tax law, and estate planning.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
106-111	Business Communications	3
106-112	Information Storage and Retrieval	2
106-120	Document Processing	1
106-122	Customer Service Applications	2
106-123	Editing Applications	1
106-124	Keyboarding, Speed and Accuracy Improvement	1
106-134	Communication Technologies	3
106-139	Business Proofreading Skills	2
106-159	Advanced Microsoft Word	2
106-163	Database and Spreadsheet Essentials	2
106-164	Business Applications for Microsoft Office	3
106-167	Legal Processes and Systems	3
106-169	Law Office Applications	3
106-175	Legal Documents Production 1	2
106-176	Legal Documents Production 2	2
106-178	Legal Office Professional	3
196-189	Team Building and Problem Solving	3

### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional four credits of electives.		4

**Total** 66

A Legal Administrative Professional Exit Assessment (997-132) is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Legal Office Skills Certificate Certificate: 97-106-4

This certificate assists individuals who have general business/office skills in gaining specialized training for the legal office environment and assists individuals currently in the legal environment to enhance their skills or credential their legal work experience.

Coursework is drawn from the Legal Administrative Professional associate of applied science degree to provide an overview of the court system and office functions specific to the legal environment. In addition, students develop the skills to prepare documents for court filing in civil, criminal and small claims cases as well as, but not limited to, documents for real estate, family law and corporate law.

This certificate enables students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward a degree if the student desires.

**This certificate can be completed part-time during the days or evenings.** A combination of instructor-led and Internet courses are available to meet the needs of the working adult.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-159	Computer Literacy - Microsoft Office	1
106-167	Legal Processes and Systems	3
106-169	Law Office Applications	3
106-175	Legal Documents Production 1	2
106-176	Legal Documents Production 2	2
106-178	Legal Office Professional	3
<b>Total</b>		<b>14</b>

## Medical Office Specialist

### Technical Diploma: 31-106-2

Graduates of the Medical Office Specialist program find employment in individual physician's offices, clinics, outpatient clinics, health insurance companies, laboratories, medical supplies and equipment companies, nursing homes, skilled nursing facilities and public health departments.

Medical Office Specialists combine medical office skills with computer skills. Necessities for the field are strong ethical values and confidentiality standards. Strong human relations skills are important when dealing with the needs of patients on a daily basis.

Major skills learned in the program include:

- > Medical Terminology
- > Health Insurance/Coding
- > Medical Ethics
- > Customer Service
- > Medical Billing Software
- > Problem Solving
- > Applications Software (Word, Access, Excel, PowerPoint)
- > Medical Transcription of Medical Documents

High school courses helpful in preparing for the program are Medical Terminology, Anatomy, keyboarding, computer software and English.

(continued)

## Medical Office Specialist (cont.)

Course Number	Course Title	Credits
<b>Core Courses</b>		
106-120	Document Processing	1
106-151	Specialized Insurance Claims	2
106-152	Electronic Patient Billing	2
106-154	Medical Office Applications	3
106-160	Medical Office Practicum	2
501-101	Medical Terminology	3
501-107	Introduction to Computing for Healthcare	2
509-301	Medical Assistant Administrative Procedures	2
509-302	Human Body in Health and Disease	3
509-307	Medical Office Insurance and Finance	2
509-309	Medical Law, Ethics and Professionalism	2
<b>Technical Support Courses</b>		
106-138	Computer Essentials	2
106-159	Advanced Microsoft Word	2
809-195	Written Communication	3
<b>Total</b>		<b>31</b>

A Medical Office Specialist Exit Assessment is a graduation requirement for this program.

Students will need to complete Basic Math Proficiency.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## Medical Transcription

### Technical Diploma: 31-106-7

Moraine Park's Medical Transcription program provides students with the foundational knowledge and hands-on experience to translate dictated medical reports into printed formats. Coursework focuses on the skills needed to work with physicians and other health care professionals to transcribe and edit health care records in an accurate and timely manner, including history and physicals, consultations, operative reports, discharge summaries, pathology reports, radiology reports, chart notes and correspondence. Prepares students to take the RMT (Registered Medical Transcriptionist) exam offered by AHDI (Association for Healthcare Documentation Integrity). Good hearing, strong keyboarding skills and excellent grammar/spelling skills are important to a successful transcription career.

Program can be completed on a full-time or part-time basis.

Course Number	Course Title	Credits
<b>Core Courses</b>		
501-101	Medical Terminology	3
530-151	Medical Transcription Profession	1
530-172	Healthcare Delivery Systems	2
530-112	Disease Process and Treatment	4

Course Number	Course Title	Credits
530-313	Medical Transcription Basics	2
530-324	Beginning Medical Transcription	3
530-325	Advanced Medical Transcription	4
530-399	Medical Transcription Simulated Internship	3
806-189	Basic Anatomy	3
<b>Technical Support Courses</b>		
501-107	Introduction to Computing for Healthcare	2
801-195	Written Communication	3
809-196	Introduction to Sociology (or)	3
809-198	Introduction to Psychology (or)	
809-199	Psychology of Human Relations	
<b>Total</b>		<b>33</b>

A Medical Transcription Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## Multilingual Business

### Certificate

#### Certificate: 97-106-9

The Multilingual Business Certificate prepares students to provide services in both a multi-lingual and multicultural business environment. Business service areas might include government, legal, education, telecommunications, health care, banking, attractions, hotels and resorts, museums. As a student in this certificate, you will:

- > Compose and produce documents in English and a second language.
- > Apply business technology tools to communicate verbally/orally.
- > Use a variety of software applications.
- > Manage multicultural business practices.
- > Provide multicultural customer service.
- > Integrate the following core skills: customer service, team player, keyboarding, computer skills and value diversity.

Course Number	Course Title	Credits
<b>Core Courses</b>		
106-117	Fundamentals of Interpretation and Translation	2
106-120	Document Processing	1
106-127	Office Software for Multilingual	3
106-128	Technology and Services for Translation	2
106-129	Multilingual Business Essentials	3
140-109	Spanish 1	2
140-110	Spanish 2	2
140-111	Spanish 3	2
<b>Total</b>		<b>17</b>

## Office Assistant

### Technical Diploma: 31-106-1

Moraine Park's Office Assistant program is designed to provide individuals with the skills to perform fundamental office functions in a variety of business settings. The coursework trains students to use advanced word processing skills, produce business documents, maintain and retrieve files/records, perform basic accounting functions, create spreadsheets and databases, and provide customer service.

Most of the courses from this program can be directly transferred into Moraine Park's Administrative Professional and Legal Administrative Professional associate of applied science degrees should students choose to continue their education.

Note: Individuals with keyboarding experience may elect to obtain advanced standing credit for the Keyboarding course (106-103) by successfully meeting the requirements through a timed test provided at the College.

Course Number	Course Title	Credits
<b>Core Courses</b>		
106-103	Keyboarding	1
106-112	Information Storage and Retrieval	2
106-120	Document Processing	1
106-121	Advanced Document Processing	1
106-122	Customer Service Applications	2
106-123	Editing Applications	1
106-134	Communication Technologies	3
106-138	Computer Essentials	2
106-139	Business Proofreading Skills	2
106-159	Advanced Microsoft Word	2
106-163	Database and Spreadsheet Essentials	2
106-164	Business Applications - Microsoft Office	3
196-189	Team Building and Problem Solving	3
<b>Technical Support Courses</b>		
101-108	Accounting for Non-Accountants	3
801-195	Written Communication (or)	3
801-322	Occupational Writing	
<b>Total</b>		<b>31</b>

An Office Assistant Exit Assessment is a graduation requirement for this program.

Students will need to complete Basic Math Proficiency.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## Office Software Suite Certificate

### Certificate: 97-103-2

Students in this certificate series gain knowledge and skills in the following office software:

- > Windows
- > Word processing
- > Database
- > Spreadsheet
- > Presentation graphics
- > Linking and embedding capabilities

This nine-credit certificate provides training in Microsoft Windows operating system, Word, Access, Excel and PowerPoint software packages, as well as entry-level integration of these applications.

Office Software Suite allows students to take associate of applied science degree courses without the time commitment of a full-time program; the credits can later be applied toward a degree or diploma if the student desires. Students may also find that this certificate complements many Moraine Park degree and diploma programs. In addition, graduates or students may find they have already completed some of the certificate's requirements.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-160	Microsoft Word	2
103-180	Microsoft Excel	2
103-181	Microsoft Access	2
103-182	Microsoft PowerPoint	2
103-189	Microsoft Windows	1
<b>Total</b>		<b>9</b>

## Organizational Management Certificate

### Certificate: 97-196-3

This certificate focuses on the organization of an office or business and project management and quality issues.

Coursework develops skills to manage staff behaviors and design processes, analyze problems and create solutions to manage projects, and gain knowledge of concepts and tools to improve quality.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward a degree or diploma if the student desires. In addition, graduates or students currently enrolled in a program may have already completed some of the certificate's requirements.

These classes are offered in the accelerated format and are designed for employed adults. Classes meet for six weeks, four hours per week. Extensive out-of-class work is required.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-168	Organizational Development	3
196-188	Project Management	3
196-192	Managing for Quality	3
<b>Total</b>		<b>9</b>

## Principles of Management Certificate

### Certificate: 97-196-2

This certificate develops students' management and leadership skills. These five, three-credit classes provide supervisors and those who want to be supervisors the tools to be more effective. Students study and apply various management concepts, such as leadership skills and styles, motivation, conflict resolution and team building.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward a degree if the student desires. In addition, graduates or students currently enrolled in a program may find they have already completed some of the certificate's requirements.

These classes are offered in the accelerated format and are designed for employed adults. Classes meet for six weeks, four hours per week. Extensive out-of-class work is required.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-164	Personal Skills for Supervisors	3
196-169	Diversity and Change Management	3
196-189	Team Building and Problem Solving	3
196-190	Leadership Development	3
196-191	Supervision	3
<b>Total</b>		<b>15</b>

## Quality/Supervision Certificate

### Certificate: 97-623-3

This certificate focuses on the management skills necessary in the field of quality management. Five courses complete the series. Classes are a combination of the Leadership Development and Quality program areas, providing individuals with an interdisciplinary experience.

Courses are scheduled days, evenings and weekends throughout the campus locations and some are offered online. The classes are offered in an accelerated format and designed for working adults. Extensive out-of-class work is required.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward an associate of applied science degree if so desired. In addition, graduates or those currently enrolled in a program may find they have already completed some of the certificate's requirements.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-189	Team Building and Problem Solving	3
196-191	Supervision	3
623-151	Lean Manufacturing	3
623-167	ISO 9000/2000 and Auditing	3
804-107	College Mathematics	3
<b>Total</b>		<b>15</b>



# EDUCATION AND TRAINING

## Instructional Assistant

### Associate of Applied Science Degree:

#### 10-522-2

The Instructional Assistant associate of applied science degree prepares qualified individuals to work directly with students under the supervision of a licensed teacher. Students develop the skills to assist children with math, science, reading and writing assignments, as well as handle classroom management, clerical and other tasks related to instruction. This program meets Title I requirements.

Duties may also include monitoring student activities, assisting with reading, correcting papers, tutoring, one-on-one activities and small group facilitation. In addition, instructional assistants work on classroom displays, assist children with computers and media, and supervise various classroom and other school events. Instructional Assistants may be hired to provide instructional services to students from pre-kindergarten through high school; however, the focus of this program is on preparing graduates to work primarily in elementary and middle schools.

This program fulfills the requirements of the No Child Left Behind Act (NCLB Act) for paraprofessionals.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
522-101	IA: Teamwork in School Settings (or)	3
307-195	ECE: Family and Community Relationships	
522-102	IA: Techniques for Reading and Language Arts	3
522-103	IA: Introduction to Educational Practices	3
522-104	IA: Technology and Media Resources	3
522-106	IA: Child and Adolescent Development (or)	3
307-179	ECE: Child Development	
522-107	IA: Overview of Special Education (or)	3
307-187	ECE: Children With Differing Abilities	
522-111	IA: Guiding and Managing Behavior (or)	3
307-188	ECE: Guiding Children's Behavior	
522-118	IA: Techniques for Math	3
522-120	IA: Techniques for Science	3
522-122	IA: Advanced Reading and Language Arts	3
522-124	IA: Supporting Students With Disabilities	3
522-129	IA: Practicum 1	3
522-131	IA: Practicum 2	3
522-132	IA: Positive Classroom Management Techniques	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	
804-107	College Mathematics (or)	3
806-122	Natural Sciences in Society	
809-166	Introduction to Ethics: Theory and Application	3
809-172	Race, Ethnic and Diversity Studies	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>66</b>

An Instructional Assistant Exit Assessment is a graduation requirement for this program.

Practicum course substitutions between the Early Childhood program are on a case-by-case basis with instructor approval.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Introduction to the Instructional Assistant Career Certificate

### Certificate: 97-522-2

This certificate is designed for anyone with an interest in an introduction to the roles of instructional assistants or educational paraprofessionals working with ages preschool through grade twelve. Courses provide an overview of the variety of duties assisting teachers in implementing instructional programs for individuals or small groups of students. The coursework in this certificate program provides a basic foundation in theory and practical application of how children learn, teaching strategies, developing positive relationships with students, supporting the classroom teacher with classroom management, and addressing the needs of special needs students. All courses transfer to the Instructional Assistant associate of applied science degree.

Course Number	Course Title	Credits
<b>Core Courses</b>		
522-101	IA: Teamwork in School Settings	3
522-103	IA: Introduction to Educational Practices	3
522-106	IA: Child and Adolescent Development	3
522-107	IA: Overview of Special Education	3
522-111	IA: Guiding and Managing Behavior	3
<b>Total</b>		<b>15</b>

## Supporting Children's Learning Certificate

### Certificate: 97-522-1

This certificate is designed to further the professional development needs of anyone preparing for, or already engaged in, an instructional assistant or educational paraprofessional position. The coursework in this certificate program addresses methods for assisting in the instruction, guidance and classroom management of students by performing a variety of instructional support activities related to grade-level curriculum. Integrating current technology into the learning environment is also introduced. All courses transfer to the Instructional Assistant associate of applied science degree.

Course Number	Course Title	Credits
<b>Core Courses</b>		
522-102	IA: Techniques for Reading and Language Arts	3
522-104	IA: Technology and Media Resources	3
522-111	IA: Guiding and Managing Behavior	3
522-118	IA: Techniques for Math	3
522-120	IA: Techniques for Science	3
<b>Total</b>		<b>15</b>

**Accounting**

**Associate of Applied Science Degree:  
10-101-1**

The Accounting program provides the foundation for individuals to prepare financial statements and record business transactions for all types of business and industry. Coursework trains students in all facets of accounting including financial, cost, payroll, taxes, auditing and computerized systems. Students develop a strong knowledge base of Generally Accepted Accounting Principles (GAAP), accounting procedures and software applications for accounting processes. Using computers, students gain hands-on experience to process financial data into information for reporting, planning, controlling and decision-making purposes.

Teamwork, communication skills, computer technology, ethical behavior and compliance with GAAP are also emphasized.

Graduates find employment in a wide variety of accounting occupations in both the private and public sectors and/or use their training to pursue additional educational goals.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-112	Accounting 1	4
101-114	Accounting 2	4
101-115	Accounting 3	4
101-123	Income Tax Accounting	3
101-125	Cost Management 1	3
101-126	Cost Management 2 (or)	3
101-128	Auditing (or)	
101-129	Advanced Income Tax	
101-134	Introduction to Finance	3
101-141	Payroll Accounting	3
101-145	Integrated Software Applications	3
101-154	Microcomputer Accounting Applications	3
103-180	Microsoft Excel	2
103-190	Advanced Microsoft Excel	2
105-120	Business Organization	3
105-160	Business Law	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>67</b>
An Accounting Exit Assessment is a graduation requirement for this program.		
<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

**Accounting Assistant**

**Technical Diploma: 31-101-1**

The Accounting Assistant program prepares students to perform entry-level bookkeeping and accounting work. Graduates may work in a small business and be responsible for all aspects of bookkeeping or work in a larger firm and specialize in a certain area under the supervision of an accountant. The program combines hands-on computer training with accounting concepts and procedures. It serves as a solid foundation for further study in the accounting field. Courses are directly transferrable into Moraine Park's Accounting associate of applied science degree.

Course Number	Course Title	Credits
<b>Core Courses</b>		
101-112	Accounting 1	4
101-114	Accounting 2	4
101-141	Payroll Accounting	3
101-154	Microcomputer Accounting Applications	3
103-180	Microsoft Excel	2
103-190	Advanced Microsoft Excel	2
105-120	Business Organization	3
105-160	Business Law	3
<b>Technical Support Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
<b>Total</b>		<b>33</b>

An Accounting Assistant Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

# GENERAL STUDIES

## General Studies Certificate

### Certificate: 97-809-1

Moraine Park's General Studies Certificate is designed for individuals who wish to continue their education but aren't sure what career path fits their needs. Students start with classes that lay the foundation to other degree offerings or they can apply their new academic skills in the workplace. While doing certificate coursework, students are encouraged to take advantage of free career exploration services and instruction to find a direction for their educational and career goals.

Graduates of the certificate may choose to transfer the credits directly into a Moraine Park program. Many of the credits may also transfer to a four-year college or university.

Course Number	Course Title	Credits
<b>Core Courses</b>		
801-195	Written Communication	3
890-125	Student Success	1
<b>AND Three Courses From the Following List:</b>		
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting (or)	
801-198	Speech	
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	
<b>Total</b>		<b>13</b>

## General Studies Transfer Certificate

### Certificate: 97-809-2

Moraine Park's General Studies Transfer Certificate is designed to provide direct transfer between Moraine Park and University of Wisconsin colleges. The courses in this certificate also apply to Moraine Park general education requirements.

Graduates of this certificate with a 2.5 overall grade point average may qualify for sophomore status at various University of Wisconsin colleges. Or graduates desiring to continue their education at Moraine Park could apply all of the credits earned to a Moraine Park associate of applied science degree program.

Course Number	Course Title	Credits
<b>University of Wisconsin - Oshkosh</b>		
801-195	Written Communication	3
801-197	Technical Reporting	3
801-198	Speech	3
804-118	Intermediate Algebra With Applications	4
806-114	General Biology	4
806-177	General Anatomy and Physiology	4
809-166	Introduction to Ethics: Theory and Application	3
<b>AND Three of the Following Courses in at Least Two Areas:</b>		
809-159	Abnormal Psychology	3
809-188	Developmental Psychology	3
809-198	Introduction to Psychology	3
809-199	Psychology of Human Relations	3
809-195	Economics	3
809-172	Race, Ethnic and Diversity Studies	3
809-196	Introduction to Sociology	3
<b>Total</b>		<b>33</b>
<b>OR</b>		
<b>University of Wisconsin - Green Bay</b>		
801-195	Written Communication	3
804-118	Intermediate Algebra With Applications	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-172	Race, Ethnic and Diversity Studies	3
809-188	Developmental Psychology	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-197	Contemporary American Society	3
809-198	Introduction to Psychology	3
<b>Total</b>		<b>32</b>

## Individualized Technical Studies

### Associate of Applied Science Degree: 10-825-1

The Individualized Technical Studies (ITS) associate of applied science degree is a flexible program intended for students with unique backgrounds and specific career goals that can't be met by enrolling in any single program currently offered by the College.

The ITS degree gives students the option to create a unique program by combining associate degree level courses from two or more existing Moraine Park programs. At least 20 credits must be from one discipline.

ITS students work with an occupational mentor of their choosing and a team of college staff to design a sound, industry-specific program that

considers the student's career goals and prior work experiences. As a result, students achieve their career goals by acquiring knowledge and skills tailored to their specific employment needs.

Students may be eligible for credit for prior learning based on previous work experience, coursework or military service training. Documentation of prior learning can be submitted in a request for advanced standing in degree program courses. A minimum of 25 percent of the total program requirements must be earned at Moraine Park.

### Course Number Course Title Credits

#### Individualized Technical Studies Courses 39 to 49 Credits

Coursework is based on the student's Career Outcome Statements. A minimum of 20 credits must be focused in one discipline; however, the courses may be selected from more than one program. A discipline is described as a program cluster such as finance, information technology, manufacturing or health care.

#### General Studies - 21-30 Credits

##### Communications – 6 credits minimum

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech (or)	
801-197	Technical Reporting (Prerequisite: 801-195 Written Communication)	

##### Social Science – 6 credits minimum

809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics (or)	3
809-xxx	Other Social Science Courses Related to Degree	

##### Behavioral Science – 3 credits minimum

809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations (or)	
809-xxx	Other Behavioral Science Courses Related to Degree	

##### Math or Science – 3 credits minimum

804-107	College Mathematics or advanced math course (or)	3
806-xxx	Science Courses Related to Degree	3 or 4
<b>Total</b>		<b>60 to 70</b>

An Individualized Technical Studies Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Basic Clinical Coding Specialist Certificate

**Certificate: 97-530-1**

The Basic Clinical Coding Specialist Certificate prepares individuals for employment as entry-level coding specialists in health care facilities such as hospitals, clinics, physician practice groups, surgery centers, long-term care facilities and home health care agencies. Coding specialists are also employed in consulting firms, coding and billing services, insurance companies, governmental agencies and computer software companies. The medical coding specialist reviews medical documentation provided by physicians and other health care providers and translates this into numeric codes. The coding specialist assigns and sequences diagnostic and procedural codes using universally recognized coding systems. Several uses of coded data are for payment of health care claims, statistics and medical research.

Coding specialists are in demand in acute-care and outpatient-care facilities, including physician office practices and long-term care facilities. A variety of government agencies require coding expertise as well.

The courses are directly transferable into Moraine Park's Health Information Technology associate of applied science degree if students wish to further their education in this field. The certificate can be completed on a full-time or part-time basis.

Major areas of study in this program include:

- > Health Information Science
- > Health Care Delivery Systems
- > Reimbursement
- > Coding

Graduates are eligible to take the national Clinical Coding Associate (CCA) certification examination through the American Health Information Management Association (AHIMA). They may also take AHIMA's national Clinical Coding Specialist (CCS) examination; however, two years of coding experience are recommended before taking the CCS examination.

Course Number	Course Title	Credits
<b>Core Courses</b>		
501-101	Medical Terminology	3
501-107	Introduction to Computing for Healthcare	2
530-112	Disease Process and Treatment	4
530-172	Healthcare Delivery Systems	2
530-176	Health Data Management	2
530-181	Introduction to the Health Record	1
530-183	ICD Coding	3
530-184	CPT Coding	3
530-185	Healthcare Reimbursement	2
530-195	Applied Coding	2
806-189	Basic Anatomy	3
<b>Total</b>		<b>27</b>

Term 1 is Spring/Summer, Term 2 is Fall and Term 3 is Spring.

Program can be completed in one year if courses are started in the spring and summer semesters.

## Chiropractic Assistant: Office Certificate

**Certificate: 97-523-2**

Prepares students for careers as front office staff for doctors of chiropractic. Skills transfer well to other small clinic settings. Participation in three office internships makes for practical application in authentic settings.

Course Number	Course Title	Credits
<b>Core Courses</b>		
501-101	Medical Terminology	3
523-110	Chiropractic Philosophy	2
523-140	Chiropractic Office Procedures	3
523-145	Chiropractic Office Management Applications	2
523-165	Chiropractic Insurance	3
523-190	Chiropractic Office Procedures Internship	2
<b>Total</b>		<b>15</b>

## Chiropractic Assistant: Radiography Certificate

**Certificate: 97-523-3**

Prepares students for careers as radiographic assistants to doctors of chiropractic. Upon completion, student will satisfy current State of Wisconsin Delegation law\* in the area of radiography subject to state certification.

\*State laws are subject to change.

Course Number	Course Title	Credits
<b>Core Courses</b>		
523-110	Chiropractic Philosophy	2
523-113	Chiropractic Foundations	3
523-151	Chiropractic Radiographic Dynamics	3
523-155	Chiropractic Radiographic Positioning	3
531-450	BLS for Healthcare Providers	.15
<b>Total</b>		<b>11.15</b>

CPR training—healthcare provider—to include infant, child and adult CPR with AED instruction.

## Chiropractic Assistant: Therapy Certificate

**Certificate: 97-523-4**

Prepares students for careers as assistants to doctors of chiropractic. Upon completion, student will satisfy current State of Wisconsin Delegation law\* in the areas of therapies, preliminary examination and case history.

\*State laws are subject to change. State certification required.

Course Number	Course Title	Credits
<b>Core Courses</b>		
523-110	Chiropractic Philosophy	2
523-113	Chiropractic Foundations	3
523-161	Chiropractic Examination	3
523-170	Chiropractic Conjunctive Therapy	3
531-450	BLS for Healthcare Providers	.15
<b>Total</b>		<b>11.15</b>

CPR training—healthcare provider—to include infant, child and adult CPR with AED instruction.

## Chiropractic Technician

### Associate of Applied Science Degree: 10-523-1

Moraine Park's Chiropractic Technician associate of applied science degree is the only program of its kind in the Wisconsin Technical College System. Students develop knowledge and skills in a variety of areas related to chiropractic health care, including office management and insurance procedures, patient therapies, nutrition, patient education and taking x-rays. As part of the experience, students rotate through a variety of internship experiences.

Graduates, under the supervision of a chiropractor, perform functions and services that are preparatory or complementary to chiropractic adjustments. Skills learned in the program include patient examination, physiotherapy treatment, chiropractic radiology, patient education and nutrition education, office procedures and management skills.

Additionally, this exciting health care career option is offered at the West Bend campus. Program courses meet on Thursdays and/or Fridays and online, giving you the convenience to complete your degree close to home and the ability to continue to work and earn your associate's with some flexibility.

Graduates have the option of becoming nationally certified in radiology by the American Chiropractic Registry of Radiologic Technologists.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
501-101	Medical Terminology	3
523-110	Introduction to Chiropractic Philosophy	2
523-113	Chiropractic Foundations	3
523-125	Chiropractic Nutrition	2
523-140	Chiropractic Office Procedures	3
523-145	Chiropractic Office Management Applications	2
523-151	Chiropractic Radiographic Dynamics	3
523-155	Chiropractic Radiographic Positioning	3
523-161	Chiropractic Examination	3
523-163	Chiropractic Radiographic and Conjunctive Therapy	4
523-165	Chiropractic Insurance	3
523-166	Chiropractic Insurance Applications Internship	3
523-170	Conjunctive Therapy	3
523-171	Chiropractic Patient Education	3
523-190	Chiropractic Office Procedures Internship	2

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics (or)	3
806-189	Basic Anatomy	
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>66</b>

A Chiropractic Technician Exit Assessment is a graduation requirement for this program.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Clinical Laboratory Technician

### Associate of Applied Science Degree: 10-513-1

At career entry, the clinical laboratory technician/medical laboratory technician will be able to perform routine clinical laboratory tests (such as hematology, clinical chemistry, immunohematology, microbiology, serology/immunology, coagulation, molecular and other emerging diagnostics) as the primary analyst making specimen-oriented decisions on predetermined criteria, including a working knowledge of critical values. Communications skills will extend to frequent interactions with members of the health care team, external relations, customer service and patient education. The level of analysis ranges from waived and point of care testing to complex testing encompassing all major areas of the clinical laboratory. The clinical laboratory technician/medical laboratory technician will have diverse functions in areas of preanalytical, analytical and post-analytical processes. The clinical laboratory technician/medical laboratory technician will have responsibilities for information processing, training and quality control monitoring wherever clinical laboratory testing is performed.

The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences. Upon graduation, students are eligible to sit for the National Board of Certification Exam through the ASCP.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
513-110	Basic Lab Skills	1
513-111	Phlebotomy	2
513-113	Quality Assurance and Laboratory Math	1
513-114	Urinalysis	2
513-115	Basic Immunology Concepts	2
513-120	Basic Hematology	3
513-121	Coagulation	1
513-122	Introduction to Blood Bank	2
513-123	Advanced Blood Bank	2
513-130	Advanced Hematology	2
513-131	Clinical Chemistry 1	3
513-132	Clinical Chemistry 2	2
513-133	Clinical Microbiology	4
<b>Course Number Course Title Credits</b>		
513-140	Advanced Microbiology	2
513-151	Clinical Experience 1	3
513-152	Clinical Experience 2	4
513-153	Clinical Experience Seminar	4

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
806-177	General Anatomy and Physiology	4
806-186	Introduction to Biochemistry	3
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-198	Introduction to Psychology	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>66</b>

A Clinical Laboratory Technician Exit Assessment is a graduation requirement for this program.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Health Care Leadership Certificate

### Certificate: 97-196-4

This certificate develops the management and leadership skills of the health care worker. Current supervisors and those who want to be supervisors build the fundamental skills to be successful in leadership in the health care field. Taken from the Leadership Development program, these courses focus on issues relating to leading in a health care environment.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can be later applied toward a degree if the student desires. In addition, graduates or students currently enrolled in the program may find they have already completed some of the certificate's requirements.

These classes are offered in the accelerated format and are designed for employed adults. Courses are offered online to accommodate the varied schedules of health care providers. Extensive out-of-class work is required.

Courses in this certificate can be customized for on-site company training.

Course Number	Course Title	Credits
<b>Core Courses</b>		
196-169	Diversity and Change Management	3
196-189	Team Building and Problem Solving	3
196-190	Leadership Development	3
196-191	Supervision	3
196-192	Managing for Quality	3
<b>Total</b>		<b>15</b>

## Health Information Technology Associate of Applied Science Degree: 10-530-1

The Health Information Technology program prepares students to perform a variety of technical health information functions, including organizing, analyzing and technically evaluating health information; compiling various administrative and health statistics; and coding diseases, operations, procedures and other therapies.

This program can be completed on a full-time or part-time basis. All core program classes are offered online.

Graduates are in great demand by hospitals, clinics, nursing homes, insurance companies, medical research organizations and government agencies.

The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). Graduates are eligible to take the national certification exam offered by the American Health Information Management Association to become Registered Health Information Technicians (RHIT).

Job shadowing in this field is recommended prior to application. For more information about this career: [www.ahima.org/careers/intro.cfm](http://www.ahima.org/careers/intro.cfm).

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
103-181	Microsoft Access	2
106-138	Computer Essentials	2
501-101	Medical Terminology	3
501-107	Introduction to Computing for Healthcare	2
530-112	Disease Process and Treatment	4
530-172	Healthcare Delivery Systems	2
530-176	Health Data Management	2
530-177	Healthcare Statistics and Research	2
530-178	Healthcare Legal and Ethical Issues	2
530-181	Introduction to the Health Record	1
530-183	ICD Coding	3
530-184	CPT Coding	3
530-185	Healthcare Reimbursement	2
530-190	Healthcare Information Systems	3
530-193	Healthcare Quality Management	2
530-194	HIM Organizational Resources	2
530-195	Applied Coding	2
530-196	Professional Practice Experience 1	3
530-198	Professional Practice Experience 2	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	3
801-197	Technical Reporting	3
806-189	Basic Anatomy	3
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
<b>Total</b>		<b>66</b>

A Health Information Technology Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## LPN to ADN Progression Track Associate of Applied Science Degree

The LPN to ADN Progression Track is designed for individuals who are currently Licensed Practical Nurses (LPN) and want to become Registered Nurses (RN). The coursework builds upon prior learning.

Advanced standing credit may be awarded for knowledge and skills gained through occupational experiences, prior learning and other advanced placement subject exams. To ensure that students have the academic foundation for higher-level coursework, 19 escrow credits are granted after successful completion of 543-109, 543-110, 543-111 and 543-112. These escrow credits then fulfill the core course requirements for the first year of the Moraine Park Associate Degree Nursing program.

Program graduates are eligible to write the National Council Licensure Examination for registered nurses.

The program is accredited by the National League for Nursing Accrediting Commission, Inc., 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (phone 1-404-975-5000) and the Wisconsin Board of Nursing (phone 1-608-267-2357).

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
543-109	Nursing: Complex Health Alterations 1	3
543-110	Nursing: Mental Health and Community Concepts	2
543-111	Nursing: Intermediate Clinical Practice	3
543-112	Nursing: Advanced Skills	1
543-113	Nursing: Complex Health Alterations 2	3
543-114	Nursing: Management and Professional Concepts	2
543-115	Nursing: Advanced Clinical Practice	3
543-116	Nursing: Clinical Transition	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
806-177	General Anatomy and Physiology	4
806-179	Advanced Anatomy and Physiology	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-188	Developmental Psychology	3
809-198	Introduction to Psychology	3
Five Associate of Applied Science Degree Credits of Electives		5
Escrow Credits		19
<b>Total</b>		<b>70</b>

(continued)

## LPN to ADN Progression Track (cont.)

19 Escrow credits will be granted after successful completion of 543-109, 543-110, 543-111 and 543-112.

An Associate Degree Nursing Exit Assessment is a graduation requirement for this program.

Five credits of electives may be granted as advanced standing for prior work experience as an LPN.

Nursing Bridge to ADN (543-117) is **required prior to start of program**—can be used as elective credit.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 2nd semester	

## Medical Assistant

### Technical Diploma: 31-509-1

Moraine Park's Medical Assistant program prepares students to assist the doctor in a variety of clinical tasks. Students develop the skills to take medical histories, record vital signs, prepare patients for examination, collect and prepare laboratory specimens, perform basic laboratory tests, draw blood and instruct patients about medications or special diets. As graduates, these clinical tasks are performed under the supervision of a physician and vary according to state law.

Medical assistants may also perform administrative tasks such as billing and insurance, greeting patients on the phone and in person, handling correspondence, scheduling appointments and updating patient charts. The medical assistant profession is one of the fastest growing occupations.

The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (CRB-AAMAE), CAAHEP, 1361 Park Street, Clearwater, FL 727-210-2350.

Course Number	Course Title	Credits
<b>Core Courses</b>		
501-108	Pharmacology for Allied Health	2
509-301	Medical Assistant Administrative Procedures	2
509-302	Human Body in Health and Disease	3
509-303	Medical Assistant Laboratory Procedures 1	2

Course Number	Course Title	Credits
509-304	Medical Assistant Clinical Procedures 1	4
509-305	Medical Assistant Laboratory Procedures 2	2
509-306	Medical Assistant Clinical Procedures 2	3
509-307	Medical Office Insurance and Finance	2
509-309	Medical Law, Ethics and Professionalism	2
509-310	Medical Assistant Practicum	3
<b>Technical Support Courses</b>		
501-101	Medical Terminology	3
501-107	Introduction to Computing for Healthcare	2
809-195	Written Communication	3
<b>Total</b>		<b>33</b>

Medical Assistant Practicum (509-310) must be taken the last semester before graduation.

A Medical Assistant Exit Assessment is a graduation requirement for this program.

Students will need to complete Basic Math Proficiency.

<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
890-130	Career Development - take 2nd semester	

## Medical Billing Specialist Certificate

### Certificate: 97-106-6

The highly specialized professional trend in the medical office is emerging as a result of the changes in the health care delivery system and the continuous growth of managed care. This certificate prepares the student to perform the functions of the extremely complex billing processes in a health care organization.

Course Number	Course Title	Credits
<b>Core Courses</b>		
106-151	Specialized Insurance Claims	2
106-152	Electronic Patient Billing	2
501-101	Medical Terminology	3
501-107	Introduction to Computing for Healthcare	2
509-301	Medical Assistant Administrative Procedures	2
509-302	Human Body in Health and Disease	3
509-307	Medical Office Insurance and Finance	2
509-309	Medical Law, Ethics and Professionalism	2
<b>Total</b>		<b>18</b>

Students will need to complete Basic Math Proficiency.

## Nursing Assistant

### Technical Diploma: 30-543-1

The Nursing Assistant program provides classroom theory, laboratory experience and clinical learning that teaches students the skills to perform duties such as taking vital signs, bathing, dressing, making beds, and other direct resident care. Community agencies are used for clinical learning and includes long-term care settings. The program is also offered in district health care facilities.

Course Number	Course Title	Credits
<b>Core Course</b>		
543-300	Nursing Assistant	3
<b>Total</b>		<b>3</b>

## Nursing – Associate Degree With a Practical Nursing Exit Point

### Associate of Applied Science Degree: 10-543-1

The Nursing - Associate Degree With a Practical Nursing Exit Point program prepares graduates for careers as nurses (LPN and/or RN) in ambulatory care settings, acute care settings and long-term care organizations, as defined by the Wisconsin Nurse Practice Act. After successfully completing the first two semesters of the program, students are eligible to write the Practical Nursing National Council Licensure Examination. At this point, students could job out and seek employment as LPNs or continue on in the remaining two semesters and prepare to write the National Council Licensure Examination for Registered Nurses. Admissions windows are in spring and fall.

Students receive classroom instruction, laboratory practice and clinical nursing experiences. This program can be completed on a full-time or part-time basis.

The program is accredited by the National League for Nursing Accrediting Commission, Inc., 3343 Peachtree Road NE, Suite 500, Atlanta, GA 30326 (phone 1-404-975-5000) and the Wisconsin Board of Nursing (phone 1-608-267-2357).

Helpful high school courses include chemistry, biology, mathematics, reading, writing and oral communication.

(continued)

**Nursing – Associate Degree With a Practical Nursing Exit Point (cont.)**

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
543-101	Nursing Fundamentals	2
543-102	Nursing Skills	3
543-103	Nursing Pharmacology	2
543-104	Nursing: Introduction to Clinical Practice	2
543-105	Nursing: Health Alterations	3
543-106	Nursing: Health Promotion	3
543-107	Nursing: Clinical Care Across the Life Span	2
543-108	Nursing: Introduction to Clinical Care Management	2
543-109	Nursing: Complex Health Alterations 1	3
543-110	Nursing: Mental Health and Community Concepts	2
543-111	Nursing: Intermediate Clinical Practice	3
543-112	Nursing: Advanced Skills	1
543-113	Nursing: Complex Health Alterations 2	3
543-114	Nursing: Management and Professional Concepts	2
543-115	Nursing: Advanced Clinical Practice	3
543-116	Nursing: Clinical Transition	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
806-177	General Anatomy and Physiology	4
806-179	Advanced Anatomy and Physiology	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-188	Developmental Psychology	3
809-198	Introduction to Psychology	3
Students must choose an additional five credits of electives.		5
<b>Total</b>		<b>70</b>

For students taking NCLEX-PN, a PN Exit Assessment is a graduation requirement for this program.

An Associate Degree Nursing Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

**Pharmacy Technician**

**Technical Diploma: 31-536-1**

*(Shared With Lakeshore Technical College)*

If you're ill or injured, you have access to an enormous variety of therapeutic medications, and you trust your pharmacy to correctly interpret and fill your prescriptions. Pharmacy

technicians contribute to our safety by assisting pharmacists in a variety of technical tasks. If you're attentive to detail; organized; a good communicator; and like math, science, and working with people, a career as a pharmacy technician may be your prescription for success.

Course Number	Course Title	Credits
<b>Course</b>		
<b>Moraine Park Courses</b>		
501-101	Medical Terminology	3
801-198	Speech	3
809-199	Psychology of Human Relations	3
<b>Lakeshore Courses</b>		
501-102	Health Insurance and Reimbursement	3
536-110	Pharmaceutical Calculations	3
536-112	Pharmacy Business Applications	3
536-115	Pharmacy Law	2
536-120	Fundamentals of Reading Prescriptions	1
536-122	Pharmacology	3
536-124	Pharmacy Drug Distribution Systems	1
536-126	Pharmacy Parenteral Admixtures	3
536-138	Pharmacy Community Clinical	2
<b>Course</b>		
<b>Choice A (5 credits)</b>		
536-140	Pharmacy Hospital Clinical	3
536-141	Hospital Clinical Lab	2
<b>Choice B (5 credits)</b>		
536-142	Pharmacy Community Clinical-Advanced	2
xxx-xxx	An Approved Business Course Such As:	3
104-102	Principles of Marketing	
104-104	Selling Principles	
182-108	Purchasing	
<b>Total</b>		<b>35</b>

**Phlebotomy Technician Certificate**

**Certificate: 97-513-1**

This two-course certificate prepares individuals to collect blood specimens via venipuncture and capillary puncture procedures for the purposes of laboratory analysis.

The courses are taken in sequence over two semesters. The first course, Phlebotomy Essentials, provides the student with theory, safety techniques and regulations, infection control, and procedural applications and training. The second course, Phlebotomy Clinical, places students at clinical sites. Travel may be required for clinical sites, and clinical times may vary.

Upon completion of the certification, students may take the national certification examination offered by the Board of Certification.

Course Number	Course Title	Credits
<b>Core Courses</b>		
513-100	Phlebotomy Essentials	4
513-101	Phlebotomy Clinical	2
<b>Total</b>		<b>6</b>

**Radiography**

**Associate of Applied Science Degree: 10-526-1**

Radiography prepares individuals for a career in diagnostic radiology (x-ray) as a radiographer. The radiographer is a technologist who produces images of the human body to aid physicians in the diagnosis of injuries and diseases. Graduates of the program are eligible to take the entry-level certification examination administered by the American Registry of Radiography Technologists (ARRT) and may obtain employment in x-ray departments associated with hospitals, medical clinics, veterinary clinics and private offices. Program curriculum focuses on theoretical and applied radiography and includes a clinical experience in a radiographic department. The program is accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT). Students learn to use x-ray imaging machines to demonstrate body parts on x-ray films for diagnostic purposes, including diagnostic radiology, bedside and trauma procedures, pediatric radiography and special procedures.

Course Number	Course Title	Credits
<b>Course</b>		
<b>Technical Studies Courses</b>		
526-149	Radiographic Anatomy and Procedures 1	5
526-158	Introduction to Radiography	3
526-159	Radiographic Imaging 1	3
526-168	Radiography Clinical 1	2
526-170	Radiographic Imaging 2	3
526-174	ARRT Certification Seminar	2
526-189	Radiographic Pathology	1
526-190	Radiography Clinical 5	2
526-191	Radiographic Anatomy and Procedures 2	5
526-192	Radiography Clinical 2	3
526-193	Radiography Clinical 3	3
526-194	Imaging Equipment Operation	3
526-195	Radiographic Quality Analysis	2
526-196	Modalities	3
526-197	Radiation Protection and Biology	3
526-198	Radiography Clinical 6	2
526-199	Radiography Clinical 4	3

*(continued)*



## Radiography (cont.)

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
804-107	College Mathematics	3
806-177	General Anatomy and Physiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3
<b>Total</b>		<b>70</b>

A Radiography Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Respiratory Therapist

### Associate of Applied Science Degree: 10-515-1

Respiratory therapists, as members of a team of health care professionals, work to evaluate, treat and manage patients of all ages with respiratory illnesses and other cardiopulmonary disorders in a wide variety of clinical settings. In addition to performing respiratory care procedures, respiratory therapists are involved in clinical decision-making (such as patient evaluation, treatment selection and assessment of treatment efficacy) and patient education.

The scope of practice for respiratory therapy includes, but is not limited to: assessing the cardiopulmonary status of patients, drawing blood samples, performing blood gas analysis and pulmonary function testing, initiating ordered respiratory care, evaluating and monitoring patients' responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures and life support endeavors to achieve desired therapeutic objectives, providing patient, family and community education, and participating in life support activities as required. At graduation, the student is qualified for admission to the entry-level and advanced practitioner examinations to become a registered respiratory therapist. The Commission on Accreditation of Allied Health Education Programs accredits the program on recommendation of the Committee on Accreditation for Respiratory Care (CoARC).

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
501-101	Medical Terminology	3
515-111	Respiratory Survey	3
515-112	Respiratory Airway Management	2
515-113	Respiratory Life Support	3
515-171	Respiratory Therapeutics 1	3
515-172	Respiratory Therapeutics 2	3
515-173	Respiratory Pharmacology	3
515-174	Respiratory and Cardiac Physiology	3
515-175	Respiratory Clinical 1	2
515-176	Respiratory Disease	3
515-178	Respiratory Clinical 2	3
515-179	Respiratory Clinical 3	3
515-180	Respiratory Neonatal and Pediatric Care	2
515-181	Respiratory and Cardio Diagnostics	3
515-182	Respiratory Clinical 4	3
515-183	Respiratory Clinical 5	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	4
806-177	General Anatomy and Physiology	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
Students must choose an additional two credits of electives.		2
<b>Total</b>		<b>70</b>

A Respiratory Therapist Exit Assessment is a graduation requirement for this program. Due to accreditation requirements, completion of mock certification and registry exams are required for graduation.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Surgical Technology

### Associate of Applied Science Degree: 10-512-1

Surgical technologists are allied health professionals who are an integral part of the team of medical practitioners providing surgical care to patients in a variety of settings.

The surgical technologist works under medical supervision to facilitate the safe and effective conduct of invasive surgical procedures. This individual works to ensure that the operating room environment is safe, that equipment functions properly, and that the operative procedure is conducted under conditions that maximize patient safety.

A surgical technologist possesses expertise in the theory and application of sterile and aseptic technique and combines the knowledge of human anatomy, surgical procedures, and implementation tools and technologies to facilitate a physician's performance of invasive therapeutic and diagnostic procedures.

The clinical case requirement for program completion includes a minimum of 80 cases.

The Surgical Technology program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) in cooperation with the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA). ARC/STSA is sponsored by the Association of Surgical Technologists, the American College of Surgeons and the American Hospital Association, 1361 Park Street, Clearwater, FL 33756, 727-210-2350.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
501-101	Medical Terminology	3
512-125	Introduction to Surgical Technology	4
512-126	Surgical Technology Fundamentals 1	4
512-127	Exploring Surgical Issues	2
512-128	Surgical Technology Fundamentals 2	4
512-129	Surgical Pharmacology	2
512-130	Surgical Skills Application	2
512-131	Surgical Interventions 1	4
512-132	Surgical Technology Clinical 1	3
512-133	Surgical Technology Clinical 2	3
512-134	Surgical Interventions 2	3
512-135	Surgical Technology Clinical 3	3
512-136	Surgical Technology Clinical 4	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
806-177	General Anatomy and Physiology	4
806-179	Advanced Anatomy and Physiology	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>67</b>

A Surgical Technology Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Artisan Baking Certificate

**Certificate: 97-316-5**

The Artisan Baking Certificate is designed for individuals seeking to acquire or desiring to upgrade skills in the production of quality, scratch-baked goods. Students learn the specialized skills in mixing and handling artisan breads (including sourdoughs), high-end tortes and breakfast pastries. Emphasis is on the use of wholesome ingredients for hotel, restaurant or bakery operations.

The Nutrition, Sanitation and Safety, and Baking courses can be applied directly into Moraine Park's Culinary Arts associate of applied science degree if students wish to continue their education. Students and graduates who want specialized training in Artisan Baking may have already completed several of the certificate courses.

Course Number	Course Title	Credits
<b>Core Courses</b>		
316-121	Nutrition	2
316-147	Sanitation and Safety	2
316-160	Baking	2
316-162	Breakfast Pastries	2
316-168	Artisan Breads	3
316-169	Cakes, Tortes and Desserts	2
<b>Total</b>		<b>13</b>

## Culinary Arts

**Associate of Applied Science Degree:  
10-316-1**

The Culinary Arts program offers students many opportunities to enter and advance in the hospitality industry. Students receive hands-on, practical experience in all aspects of food preparation and production. Coursework begins with food preparation techniques and progresses through the development of management skills related to the operation of a food service business.

The food industry has and will continue to have excellent job opportunities. Millions of meals are prepared daily in restaurants, hotels, schools and health care facilities.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
316-100	Food Principles 1	3
316-101	Food Principles 2	1
316-116	Menu Planning, Management and Design	1
316-121	Nutrition	2
316-142	Restaurant Operations	3
316-147	Sanitation and Safety	2
316-151	Fundamentals of Meat Analysis	3
316-153	Food Purchasing	2
316-160	Baking	2
316-165	Catering and Special Function Planning	3
316-171	Restaurant Management	3
316-175	Specialty Foods and Ethnic Cookery	3
316-183	Food Production for Vegetables and Potatoes	2
316-184	Food Production for Pastas, Grains and Breakfast Cookery	2
316-185	Food Production for Stocks and Soups	2
316-186	Food Production for Sauces and Specialty Soups	2
316-187	Food Production for Cold Food - Salads	2
316-188	Food Production for Cold Food - Sandwiches, Desserts, Salads and Dressings	2
316-189	Food Production for Meat, Fish and Poultry	2
316-190	Food Production for Hot Sandwiches, Deli and Short-Order Cookery	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting (or)	3
801-198	Speech	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>68</b>

A Culinary Arts Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Culinary Basics Certificate

**Certificate: 97-316-1**

The Culinary Basics Certificate provides a convenient, short-term set of courses for people, without formal training, who currently work in the food service industry and wish to upgrade their skills.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward a degree or diploma if the student desires.

Course Number	Course Title	Credits
<b>Core Courses</b>		
316-100	Food Principles 1	3
316-101	Food Principles 2	1
316-147	Sanitation and Safety	2
316-160	Baking	2
<b>Total</b>		<b>8</b>

## Deli/Bakery Certificate

**Certificate: 97-316-2**

The Deli/Bakery Certificate enables students to gain knowledge and skills in:

- > Sanitation and safety
- > Customer sales and service
- > Food preparation courses for deli sales
- > Baking
- > Applied math

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program—the credits can later be applied toward a degree or diploma if the student desires.

Course Number	Course Title	Credits
<b>Core Courses</b>		
316-100	Food Principles 1	3
316-147	Sanitation and Safety	2
316-160	Baking	2
316-181	Customer Sales and Service	1
<b>Choice of Three Courses</b>		
316-185	Food Production for Stocks and Soups	2
316-187	Food Production for Cold Food - Salads	2
316-188	Food Production for Cold Food - Sandwiches, Desserts, Salads and Dressings	2
316-189	Food Production for Meat, Fish and Poultry	2
316-190	Food Production for Hot Sandwiches, Deli and Short-Order Cookery	2
<b>Total</b>		<b>14</b>

# HOSPITALITY AND TOURISM (CONT.)

## Food Production Certificate

### Certificate: 97-316-3

The Food Production Certificate provides a convenient, short-term set of courses for people who currently work in the food service industry and wish to upgrade their skills and obtain formal training.

This certificate allows students to take associate of applied science degree courses without the time commitment of a full-time program.

Course Number	Course Title	Credits
<b>Core Courses</b>		
316-100	Food Principles 1	3
316-147	Sanitation and Safety	2
316-183	Food Production for Vegetables and Potatoes	2
316-184	Food Production for Pastas, Grains and Breakfast Cookery	2
316-185	Food Production for Stocks and Soups	2
316-186	Food Production for Sauces and Speciality Soups	2
316-187	Food Production for Cold Food - Salads	2
316-188	Food Production for Cold Food - Sandwiches, Desserts, Salads and Dressings	2
316-189	Food Production for Meat, Fish and Poultry	2
316-190	Food Production for Hot Sandwiches, Deli and Short-Order Cookery	2
<b>Total</b>		<b>21</b>

## Food Service Production

### Technical Diploma: 31-303-2

Moraine Park's Food Service Production program provides students with hands-on experience and skills in a broad range of cooking techniques and preparation methods as well as training in baking and work environment safety and sanitation.

Graduates of the program can directly transfer their credits into Moraine Park's Culinary Arts associate of applied science degree if they decide to continue their education.

There is a high demand for graduates in areas such as hospital food service, school and college food service, food contracting companies, the health care industry, retirement communities, and residential care facilities.

Course Number	Course Title	Credits	Course Number	Course Title	Credits
<b>Core Courses</b>			<b>Moraine Park Courses</b>		
316-100	Food Principles 1	3	196-191	Supervision	3
316-101	Food Principles 2	1	801-195	Written Communication	3
316-121	Nutrition	2	801-198	Speech (or)	3
316-147	Sanitation and Safety	2	801-196	Oral and Interpersonal Communication	
316-151	Fundamentals of Meat Analysis	3	809-122	Introduction to American Government (or)	
316-160	Baking	2	806-122	Natural Science in Society	3
316-181	Customer Sales and Service	1	809-195	Economics	3
316-183	Food Production for Vegetables and Potatoes	2	809-198	Introduction to Psychology	3
316-184	Food Production for Pastas, Grains and Breakfast Cookery	2	xxx-xxx	Elective (890-130 Career Development and 103-159 Computer Literacy - Microsoft Office)	
316-185	Food Production for Stocks and Soups	2	809-196	Introduction to Sociology (or)	3
316-186	Food Production for Sauces and Specialty Soups	2	809-172	Race, Ethnic and Diversity Studies	
316-187	Food Production for Cold Food - Salads	2	<b>Lakeshore Courses</b>		
316-188	Food Production for Cold Food - Sandwiches, Desserts, Salads and Dressings	2	109-121	Introduction to Hotel/Hospitality Management	3
316-189	Food Production for Meat, Fish and Poultry	2	104-170	Marketing Tourism and Hospitality	3
316-190	Food Production for Hot Sandwiches, Deli and Short-Order Cookery	2	109-110	Front Office Procedures and Management	3
			109-115	Hospitality Law	3
			109-113	Food and Beverage Operations	2
			104-111	Customer Interaction Skills	2
			105-126	Career Assessment	3
			109-111	Housekeeping Management	2
			109-120	Facilities Operations and Security	2
			109-122	Field Study/Experience	3
			101-102	Hospitality Accounting	4
			<b>Moraine Park or Lakeshore Courses</b>		
			109-101	Issues in Hotel/Hospitality Management	1
			105-127	Portfolio Assessment	1
			196-105	Recruitment and Retention of Employees	3
			316-147	Sanitation and Safety (MPTC) (2 credits extra credit applied toward electives) (or)	2
			109-112	Sanitation for Food Service (LTC)	
			890-125	Student Success (MPTC) (or)	1
			105-124	Portfolio Introduction (LTC)	
			106-122	Customer Service Applications (MPTC) (or)	2
			104-109	Customer Service Techniques (LTC)	
			804-107	College Mathematics (MPTC) (or)	3
			804-123	Math With Business Applications (LTC)	
			106-180	Business Protocol (MPTC) (3 credits extra credit applied toward electives) (or)	3
			106-120	Business Etiquette and Professionalism (LTC)	
			105-156	Career Internship - Business (MPTC) (or)	4
			109-144	Hospitality Internship (LTC)	
			<b>Total</b>		<b>67</b>

## Hotel/Hospitality Management

### Associate of Applied Science Degree:

#### 10-109-1

*(Shared With Lakeshore Technical College)*

The associate of applied science degree in Hotel/Hospitality Management prepares individuals for a management career in the hotel/hospitality industry. Coursework emphasizes theory and application of skills needed for mid-management and supervisory level of employment in food and lodging facilities. Hotel/hospitality management skills are also applicable to a variety of other hospitality operations that include conference centers, sports and entertainment facilities, front office managers, food and beverage operations, and other careers.

## Alcohol and Other Drug Abuse Associate (AODA)

### Associate of Applied Science Degree: 10-550-1

Moraine Park's AODA associate of applied science degree provides the foundational knowledge, skills and practical experience to prepare students to counsel and treat clients with substance use disorders. The program meets all educational requirements for counselor certification and prepares them for counselor certification examination. Students earn 612 hours of clinical experience through clinical internships. These hours can be applied toward the required 4,000 hours of clinical experience needed for counselor certification as a Substance Abuse Counselor with the Department of Regulation and Licensing of the State of Wisconsin.

Graduates find employment as alcohol and other drug abuse associates/counselors. The associate of applied science degree meets the educational requirements for certification with the Department of Regulation and Licensing of the State of Wisconsin. Individuals in this AODA profession work with clients and their families to develop new lifestyles and coping methods for resolving personal conflicts without turning to alcohol and drugs for solutions.

Listening, negotiating, planning, writing and counseling skills and the ability to assist others are important personal attributes of AODA professionals.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
550-106	Physiological Complications and Psychopharmacology	3
550-112	Client Rights, Confidentiality and Ethics	3
550-121	Introduction to Substance Abuse Treatment	4
550-125	Counseling Skills and Practice	3
550-131	Crisis Management	2
550-135	Diversity in Counseling	3
550-140	Counseling Theory and Practice	3
550-141	Group Facilitation	3
550-142	Introduction to Community Mental Health	3
550-150	Family Systems	3
550-156	Alcohol and Other Drug Abuse Internship 1	5
550-157	Alcohol and Other Drug Abuse Internship 2	5
550-159	Resiliency Training	2
550-160	On-Campus Talk About Alcohol	1

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	
804-107	College Mathematics (or)	3
806-122	Natural Sciences in Society	
809-166	Introduction to Ethics: Theory and Application	3
809-188	Developmental Psychology	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>67</b>

An Alcohol and Other Drug Abuse Associate (AODA) Exit Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Barber/Cosmetologist

### Technical Diploma: 31-502-1

Moraine Park's Barber/Cosmetologist technical diploma is a 16-month program, including a summer session, that prepares graduates for the state Barber/Cosmetologist Licensing Exam. First-semester students learn classroom theory and fundamental skill development. Second-semester students apply their skills in the newly renovated, state-of-the-art salon where they perform client services including: shampoos, hair colors, hair styles, facials, scalp treatment, manicures and permanent waves. Students also attend area shows and hear guest presentations from industry artists. Class attendance is critical.

Individuals interested in this field should have a strong interest in personal appearance, have artistic creativity and enjoy working with people. In addition, this career requires individuals to have the stamina to stand for longer periods to perform their services.

The program offers August and January start dates according to the following schedule: August 2010 and January 2011. Students must be accepted into the program prior to enrolling in the courses. All fees must be paid prior to program start. Class size is limited to the first 20 paid students. Early enrollment is encouraged. See an admissions specialist for more information.

Students are strongly encouraged to get on the waiting list. If class space becomes available, wait-list students are offered the spots.

Course Number	Course Title	Credits
<b>Core Courses</b>		
502-300	Professional Practices	2
502-301	Hairstyling, Shampooing and Scalp Treatment	2
502-302	Hairstyling, Basic Techniques	2
502-303	Hairstyling, Updos and Braids	1
502-309	Nail Care	1
502-311	Haircutting, Basic Forms	2
502-312	Haircutting Techniques	1
502-313	Short and Trend Cuts	1
502-316	Artificial Nails	1
502-321	Salon Services 1	2
502-322	Salon Services 2	3
502-323	Salon Services 3	3
502-324	Salon Services 4	4
502-325	Salon Services 5	3
502-330	Facials/Skin Structure and Its Disorders	3
502-333	Chemical Relaxing and Wigs	1
502-334	Permanent Wave Techniques	2
502-335	Permanent Wave, Design Wraps	1
502-337	Advanced Design Wraps	1
502-345	Hair Color Applications	1
502-346	Lightening and Toning	1
502-348	Highlighting and Corrective Color	1
502-354	Chemistry	1
502-355	Anatomy and Book Final	1
502-356	Laws and Rules	1
502-381	Salon Operations	1
<b>Technical Support Courses</b>		
801-310	Occupational Communication Terms 6 and 7	2
	Basic Math Proficiency - Terms 3 or 4	
	Mock State Board Exam - Term 7	
<b>Total</b>		<b>45</b>

A Barber/Cosmetologist Exit Assessment is a graduation requirement for this program.

A state of Wisconsin Licensing Exam is required.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>last</b> semester

## Child Care Administrative Credential Certificate

**Certificate: 97-307-1**

The Child Care Administrative Credential Certificate is comprised of six courses (18 credits) that address the many roles of program administrators and directors in early childhood settings. Students gain more knowledge in areas such as staffing, budget development, facilities management, determining community needs, understanding laws and regulations as well as best practices and performance standards.

The coursework is designed for current administrators, supervisors and child care teachers from early childhood settings who want to develop a stronger knowledge base of the administrative role. Upon completion, students may also apply to the Registry for the Wisconsin Professional Credential for Child Care Administrators.

Scholarships are available for students who are employed in a licensed or exempt early childhood center or a licensed or certified family child care program. Applicants must have the support of their employer and possess a high school diploma or GED. Scholarships for the Child Care Administrative Credential Certificate are available through the Wisconsin Early Childhood Association.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-131	Administration and Supervision	3
307-132	Operations Management	3
307-133	Financial Management	3
307-134	Early Childhood Programs and the External Environment	3
307-135	Best Practices	3
307-136	Administrative Seminar	3
<b>Total</b>		<b>18</b>

## Child Care Mentor/Protégé Certificate

**Certificate: 97-307-3**

The Child Care Mentor/Protégé Certificate is designed to enhance the quality of child care by improving the skills and training level of child care teachers. The program provides opportunities for professional networking and strengthens the commitment to a career in the Early Childhood profession. Experienced teachers serve as mentors to new early childhood teachers who are their protégés. Mentors and protégés work together at their child care centers for an “on-the-job” learning experience to further develop best practices, gain more professional skills, and enhance learning environments in early childhood education.

Scholarships are available for students who are employed in a licensed or exempt early childhood center or a licensed or certified family child care program. Applicants must have the support of their employer and possess a high school diploma or GED. In addition, caregivers participating in these classes must commit to one year of employment beyond completion of the credential to assure stability in the workforce. Scholarships for the Child Care Mentor/Protégé Certificate are available through the Wisconsin Early Childhood Association.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-180	Early Childhood Mentor and Teacher Seminar	2
307-181	Early Childhood Mentors and Protégés at Work	3
<b>Total</b>		<b>5</b>

## Child Care Services

**Technical Diploma: 31-307-1**

The Child Care Services technical diploma is part of a cluster of programs designed to meet the increasing demand for quality child care. The coursework provides students with the foundational knowledge and skills to understand the emotional, mental and physical development of young children; how to create developmentally appropriate classroom activities; how to guide behaviors; and how to provide a healthy, well-rounded learning environment. These skills are applied in two practicums where students gain hands-on experience working with children in Moraine Park Technical College’s on-campus

child care and local child care centers. This program prepares students for jobs in a variety of early childhood settings.

The Child Care Services program is part of the first year of Moraine Park’s Early Childhood Education associate of applied science degree. All the Child Care Services classes are directly transferable into the Early Childhood Education program if students wish to continue their education.

Both day and evening classes are available. Fond du Lac and West Bend offer the complete program. A few courses are offered online.

Scholarships are available for students who are employed in a licensed or exempt early childhood center or a licensed or certified family child care program. Applicants must have the support of their employer and possess a high school diploma or GED.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-148	ECE: Foundations of Early Childhood Education	3
307-151	ECE: Infant and Toddler Development	3
307-167	ECE: Health, Safety and Nutrition	3
307-174	ECE: Practicum 1	3
307-178	ECE: Art, Music and Language Arts	3
307-179	ECE: Child Development (or)	3
522-106	IA: Child and Adolescent Development	
307-187	ECE: Children With Differing Abilities (or)	3
522-107	IA: Overview of Special Education (or)	
522-124	IA: Supporting Students With Disabilities	
307-188	ECE: Guiding Children’s Behavior (or)	3
522-111	IA: Guiding and Managing Behavior	
307-192	ECE: Practicum 2	3
307-194	ECE: Math, Science and Social Studies	3
307-195	ECE: Family and Community Relationships (or)	3
522-101	IA: Teamwork in School Settings	
<b>Technical Support Courses</b>		
801-195	Written Communication	3
<b>Total</b>		<b>36</b>

A Child Care Services Exit Assessment is a graduation requirement for this program.

Students will need to complete Basic Math Proficiency.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## Early Childhood Education

### Associate of Applied Science Degree: 10-307-1

The Early Childhood Education program prepares students to work as teacher-caregivers in early childhood settings. It combines hands-on field-work in area centers with related academic work at the College. Graduates become responsible for the care and education of children in the birth-to-six-years age range. They create and maintain safe and healthy play environments, guide behavior, plan and implement learning activities, and work cooperatively with staff and parents.

Students experience a variety of learning opportunities with increasing responsibility for working with children in local child care settings and at Moraine Park Technical College's on-campus child development center in Fond du Lac.

Both day and evening classes are available. Fond du Lac and West Bend offer the complete program. A few courses are offered online.

Scholarships are available for students who are employed in a licensed or exempt early childhood center or a licensed or certified family child care program. Applicants must have the support of their employer and possess a high school diploma or GED.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
307-148	ECE: Foundations of Early Childhood Education	3
307-151	ECE: Infant and Toddler Development	3
307-166	ECE: Curriculum Planning	3
307-167	ECE: Health, Safety and Nutrition	3
307-174	ECE: Practicum 1	3
307-178	ECE: Art, Music and Language Arts	3
307-179	ECE: Child Development (or)	3
522-106	IA: Child and Adolescent Development	
307-187	ECE: Children With Differing Abilities (or)	3
522-107	IA: Overview of Special Education (or)	
522-124	IA: Supporting Students With Disabilities	
307-188	ECE: Guiding Children's Behavior (or)	3
522-111	IA: Guiding and Managing Behavior	
307-192	ECE: Practicum 2	3
307-194	ECE: Math, Science and Social Studies	3
307-195	ECE: Family and Community Relationships (or)	3
522-101	IA: Teamwork in School Settings	

Course Number	Course Title	Credits
307-197	ECE: Practicum 3	3
307-198	ECE: Administering an Early Childhood Education Program	3
307-199	ECE: Practicum 4	3

General Studies Courses		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	
804-107	College Mathematics (or)	3
806-122	Natural Sciences in Society	
809-166	Introduction to Ethics: Theory and Application	3
809-172	Race, Ethnic and Diversity Studies	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3

Students must choose an additional three credits of electives. **Total 69**

An Early Childhood Education Exit Assessment is a graduation requirement for this program. Practicum course substitutions between the Instructional Assistant program are on a case-by-case basis with instructor approval.

Institutional Requirements		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Early Childhood Inclusion Credential Certificate

### Certificate: 97-307-B

Working with children who have special needs can present unique challenges and opportunities to the child care industry and early childhood education field in Wisconsin. Even experienced practitioners have felt intimidated in serving this population due to a lack of up-to-date information and a well thought-out service approach. This new credential is designed to help you build the skills, knowledge, resources and attitudes to successfully work with ALL children in your centers and programs. Courses can be taken in any order and concurrently as long as the Capstone Course (course 4) is taken last.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-187	ECE: Children With Differing Abilities	3
307-110	Behavioral and Emotional Challenges	3
307-111	Special Health Care Needs	3
307-112	Family and Team-Centered Practices	3
<b>Total</b>		<b>12</b>

## Early Childhood Preschool Credential Certificate

### Certificate: 97-307-A

The Early Childhood Preschool Credential Certificate is designed for individuals working with children ages three to eight. This might include family child care providers, day care teachers, nursery school teachers, certified providers, or anyone wishing to provide a quality environment and learning activities for children in this critical age group.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-148	ECE: Foundations of Early Childhood Education	3
307-167	ECE: Health, Safety and Nutrition	3
307-178	ECE: Art, Music and Language Arts	3
307-179	ECE: Child Development (or)	3
522-106	IA: Child and Adolescent Development	
307-188	ECE: Guiding Children's Behavior (or)	3
522-111	IA: Guiding and Managing Behavior	
307-102	ECE: Preschool Capstone	3
<b>Total</b>		<b>18</b>

## Infant/Toddler Credential Certificate

### Certificate: 97-307-2

The Infant/Toddler Credential Certificate is composed of four courses (12 credits) that specifically focus on providing care to children from birth to three years of age. Students learn the emotional, mental and physical development for these ages; how to create developmentally appropriate activities; how to guide behaviors; and how to be sensitive to the needs of infants and toddlers. These skills are applied as part of a student internship.

Students are required to develop a portfolio based on the required outcomes for the courses. Upon completion, students will submit the portfolio to the instructor, who will award the certificate. Students may also apply to the Registry for the Wisconsin Professional Credential for Infant/Toddler Caregivers.

(continued)

## Infant/Toddler Credential Certificate (cont.)

Scholarships are available for students who are employed in a licensed or exempt early childhood center or a licensed or certified family child care program.

Scholarships for the Infant/Toddler Credential are available through the Wisconsin Early Childhood Association.

Course Number	Course Title	Credits
<b>Core Courses</b>		
307-151	ECE: Infant and Toddler Development	3
307-183	Group Care for Infants and Toddlers	3
307-195	ECE: Family and Community Relationships	3
307-196	Infant/Toddler Capstone (or)	3
307-199	ECE: Practicum 4	
<b>Total</b>		<b>12</b>

## Nail Technician Certificate

**Certificate: 97-502-1**

This 324-hour, 20-week certificate prepares students for the state licensing examination to practice as a manicurist.

Students begin in August and graduate in February. Classes are held in the evening and run three or four times per week. Contact an Admissions Specialist for specific scheduling. This program is attractive to people with creativity, visual perception, and good human relations and communications skills. Students develop nail technician skills in the classroom and a simulated salon setting. Coursework also entails law, regulations, business management and ethics to help students who may want to start their own businesses.

NOTE: 502-361 is a prerequisite to 502-362. 502-362 is a prerequisite to 502-363. Student must register for all three courses: two courses in the fall and a third course in the spring.

Students must be accepted into the certificate to be eligible to enroll in the courses. Fees must be paid prior to program start. Class size is limited to a maximum of 16. No students will be accepted following the second class session.

Graduates of the certificate find employment in salons or may choose to open their own place of business.

Course Number	Course Title	Credits
<b>Core Courses</b>		
502-361	Nail Technician 1	3
502-362	Nail Technician 2	4
502-363	Nail Technician 3	2
<b>Total</b>		<b>9</b>

## Preparing for AODA Certification – Knowledge and Skill Base Certificate

**Certificate: 97-550-1**

Selected courses from the associate of applied science degree program, Alcohol and Other Drug Abuse Associate (AODA), contain competencies required for counselor certification. The coursework offered at Moraine Park provides the theoretical base for students to then obtain an internship placement and accumulate the required practical experiences. The AODA Certificate program is designed for students who may already have a degree in human services and are interested in acquiring an additional specialty in AODA counseling.

Course Number	Course Title	Credits
<b>Core Courses</b>		
550-106	Physiological Complications and Psychopharmacology	3
550-112	Client Rights, Confidentiality and Ethics	3
550-121	Introduction to Substance Abuse Treatment	4
550-125	Counseling Skills and Practice	3
550-131	Crisis Management	2
550-135	Diversity in Counseling	3
550-140	Counseling Theory and Practice	3
550-141	Group Facilitation	3
550-142	Introduction to Community Mental Health	3
550-150	Family Systems	3
<b>Total</b>		<b>30</b>

Term 1 is Spring/Summer, Term 2 is Fall and Term 3 is Spring.

Program can be completed in one year if courses are started in the spring and summer semesters.

## Computer Information Security Advanced Technical Certificate

### Advanced Technical Certificate: 98-150-1

The Computer Information Security Advanced Technical Certificate addresses today's needs in security policy development, implementation techniques, intrusion detection and prevention, vulnerabilities, encryption, authentication, compromised networks, and tools to address these topics. Students develop skills to recognize, prevent and respond to network attacks; identify intrusion methods; and use security tools.

Course Number	Course Title	Credits
<b>Core Courses</b>		
150-191	Principles of Information Security	2
150-192	Network Security Fundamentals	2
150-193	Network Attacks and Firewalls	3
150-194	Network Defense and Countermeasures	3
<b>Total</b>		<b>10</b>

Courses listed above are offered in a sequence to allow completion of the certificate in one school year. However, completion in one year is not required. Refer to the course descriptions for prerequisites.

## Information Technology – Applications Developer

### Associate of Applied Science Degree: 10-152-5

The Information Technology - Applications Developer program trains students in computer programming languages, client/server applications, database theory and application, systems analysis and design, Internet applications, operating systems and software applications.

Individuals in this career need to be detail-oriented and have the ability to communicate effectively.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
103-181	Microsoft Access	2
103-188	Advanced Microsoft Access	2
105-120	Business Organization (or)	3
152-199	Applications Developer Internship	
106-138	Computer Essentials	2
152-103	Introduction to Web Site Design	1
152-118	Database-Driven Web Sites	3
152-126	Introduction to Systems Analysis	3
152-127	Visual Studio Developer	3
152-128	Visual Basic, Database Connectivity	3
152-129	Visual Basic, Business Applications	3

Course Number	Course Title	Credits
152-134	Visual Basic, SQL Applications	3
152-135	Microsoft Access Development	3
152-137	Java Programming	2
152-138	Advanced Java Programming	2
152-139	C# Development	3
152-147	Systems Analysis and Design	3
152-148	Systems Analysis and Implementation	3

#### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology	3

**Total 65**

An IT - Applications Developer Exit Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Information Technology – Network Specialist

### Associate of Applied Science Degree: 10-150-2

The Information Technology - Network Specialist program prepares students with the skills and knowledge to provide businesses and organizations with computer network support, network installation, network administration, network design and integration. Coursework also prepares students to acquire nationally recognized industry certification. In order to better meet corporate demands for information sharing, integrated technologies are a major component of the program.

Coursework may be offered in a sequence and time frame to meet the needs of part-time students and full-time students. A major strength of the program is instruction based on industry standards and certification. Required courses help prepare students for the Comp TIA A+ certification and the Comp TIA Network+ certification.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
150-101	Network+	2
150-102	Microsoft Workstations	3
150-103	Network Cabling	2
150-120	Microsoft Servers	3
150-130	IT Administration	3
150-140	Microsoft Network Administration	3
150-141	Computer Network Installation	2
150-143	Linux Network Administration	2
150-191	Principles of Information Security	2
152-103	Introduction to Web Site Design	1
152-104	Intermediate Web Site Design	2
152-127	Visual Studio Developer	3
154-111	Computer System Maintenance	3
154-112	Hardware/Software Support	3
154-113	Help Desk Concepts	3

#### General Studies Courses

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3

Students must choose an additional six credits of electives.

**Total 67**

An IT - Network Specialist Exit Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Information Technology – Technical Support Specialist

### Associate of Applied Science Degree: 10-154-4

Moraine Park's Information Technology - Technical Support Specialist program provides students with the skills to support micro-computer systems and their users in both stand-alone and network environments. Coursework offers both the theoretical and hands-on training to perform a variety of computer functions such as installing hardware and software, troubleshooting and repairing, providing computer and system maintenance, and having the knowledge of common software applications to assist others.

(continued)



## Information Technology – Technical Support Specialist (cont.)

People working in this field require skills in communication, time management and organization, as well as mobility and a willingness to work long hours (nights and weekends). They also need to be detail-oriented and be able to prioritize their work and have a desire to learn new things. Typical jobs include supporting the end user, setting up new computers, troubleshooting/repairing computers, staffing a help desk, training individuals and writing procedures.

Advanced standing for skills gained through work experience is possible. Leads toward A+ certification.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
103-160	Microsoft Word	2
103-182	Microsoft PowerPoint	2
106-134	Communication Technologies	3
106-138	Computer Essentials	2
106-163	Database and Spreadsheet Essentials	2
150-101	Network+	2
150-102	Microsoft Workstations	3
150-120	Microsoft Servers	3
150-130	IT Administration	3
150-141	Computer Network Installation	2
154-111	Computer System Maintenance	3
154-112	Hardware/Software Support	3
154-113	Help Desk Concepts	3
154-115	Training and Development in Office Systems	3
154-120	Microcomputer Operating Systems	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
801-197	Technical Reporting	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	3
Students must choose an additional six credits of electives.		6
<b>Total</b>		<b>68</b>

An IT - Technical Support Specialist Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Information Technology – Web Designer/Developer

### Technical Diploma: 31-152-7

The Information Technology - Web Designer/ Developer program teaches students to use a variety of software, programming and markup languages combined with Web design principles to create Web sites used for marketing and e-commerce.

Graduates may work in positions as Webmasters, Web designers, Web developers and Web site developer consultants/entrepreneurs. Individuals may be employed in a wide range of companies that are interested in using the Internet to market and/or sell their products or services. Graduates may be employed by a consulting firm that provides Web design, development and maintenance as a contracted service to businesses and industries or start their own business.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-170	Beginning Photoshop	2
103-193	Dreamweaver/Flash	3
152-103	Introduction to Web Site Design	1
152-104	Intermediate Web Site Design	2
152-107	Graphics for the Web	2
152-112	HTML/XML	3
152-113	JavaScript	3
152-115	Web Site Design, Implementation and Maintenance	3
152-117	Emerging Web Technologies and Trends	1
152-118	Database-Driven Web Sites	3
152-119	Web Developer Concepts	2
152-120	Web Developer Internship	3
152-124	e-Commerce: Designing and Marketing Web Sites	3
152-127	Visual Studio Developer	3
204-165	Principles of Graphic Design	2
<b>Technical Support Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
<b>Total</b>		<b>42</b>

An IT - Web Designer/Developer Exit Assessment is a graduation requirement for this program.

Students will need to complete Basic Math Proficiency.

### Related Certificate: Web Site Coordinator

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

Note: Students should be able to keyboard 25 wpm **or** enroll in the Keyboarding (106-103) course; have experience using the Internet **or** enroll in the Exploring the Internet With Client Software (103-165) course; and have experience using Microsoft Word, Access and Excel.

## Web Site Coordinator Certificate Certificate: 97-152-1

The Web Site Coordinator Certificate offers students the opportunity to develop basic skills that enable them to design, develop and maintain Internet Web sites. Coursework introduces students to design software, electronic imaging, Web site coding, and design and development processes to support the marketing functions of a business.

This certificate allows students to take technical diploma courses without the time commitment of a full-time program. The credits can be applied toward the Information Technology - Web Designer/Developer program if the student desires.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-165	Exploring the Internet With Client Software	1
103-170	Beginning Photoshop	2
152-103	Introduction to Web Site Design	1
152-107	Graphics for the Web	2
152-112	HTML/XML	3
152-115	Web Site Design, Implementation and Maintenance	3
152-119	Web Developer Concepts	2
<b>Total</b>		<b>14</b>

## Criminal Justice – Corrections

### Associate of Applied Science Degree: 10-504-2

The Criminal Justice - Corrections program is an accredited two-year associate of applied science degree program that prepares students for positions in a variety of corrections careers ranging from least restrictive settings, such as group homes, to highly restrictive maximum-security prisons.

Students may begin correctional employment immediately upon graduation, continue on with their four-year degree, or work to get the combination of work and education required for specific positions such as probation and parole agent. Many current professionals enroll in the program to enhance career advancement opportunities.

This program focuses on the “soft skills” necessary for success in this field. Students are trained in paraprofessional counseling skills focused on the empowerment model. Many counties require the associate of applied science degree or 60 college credits. A graduate of Moraine Park’s program, once hired in these jail positions, can expect to earn \$15 to \$16 per hour.

The field of corrections needs people with high ethical standards, positive human values, supportive attitudes and effective listening and negotiating skills.

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
504-102	Careers in Corrections	3
504-103	Adult Institutional Supervision	3
504-110	Introduction to Criminal Justice Supervision	3
504-122	Correctional Law, Codes and Reports	3
504-129	Interviewing Techniques	3
504-132	Corrections Report Writing	3
504-133	Adolescent and Juvenile Supervision	3
504-136	Correctional Counseling	3
504-143	Probation and Parole	3
504-146	Security Procedures	3
504-155	Stress Management	3
504-162	Corrections Internship	2
504-163	Emergency Procedures	3
504-181	Ethnicity, Corrections and Supervision	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	3
804-107	College Mathematics (or)	3
806-122	Natural Sciences in Society	3
809-159	Abnormal Psychology (or)	3
809-188	Developmental Psychology	3
809-166	Introduction to Ethics: Theory and Application	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3

Students must choose an additional three credits of electives. **3**

**Total 65**

A Criminal Justice - Corrections Exit Assessment is a graduation requirement for this program.

#### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Emergency Medical Technician - Basic

### Technical Diploma: 30-531-3

Moraine Park Technical College’s Emergency Medical Technician - Basic program prepares students for licensure as entry-level ambulance attendants in Wisconsin. Patients’ lives often depend on the quick reactions and competent care provided by emergency medical technicians. EMTs respond to emergencies as varied as vehicle crashes, heart attacks, drownings, child-births, gunshot wounds, strokes, falls, diabetic emergencies and environmental exposures. As an EMT, you will be trained to assess a scene for hazards, assess both sick and injured patients, apply needed care and transport patients to appropriate facilities. Major topics covered in this program include: patient assessment, airway management, medical emergencies, trauma and EMS operations.

Classes will meet two nights per week during the semester.

Students must possess current certification in Basic Life Support to the American Heart Association’s Health Care Provider level, or equivalent approved by the Wisconsin Department of Health and Family Services.

Students must be 18 years of age at the conclusion of the course to qualify for licensure.

Course Number	Course Title	Credits
<b>Core Course</b>		
531-301	Emergency Medical Technician - Basic	4
<b>Total</b>		<b>4</b>

## Emergency Medical Technician - Paramedic

### Technical Diploma: 31-531-1

Moraine Park Technical College’s Emergency Medical Technician - Paramedic program prepares students to perform pre-hospital medical procedures. People’s lives often depend on the quick reaction and competent care of emergency medical technicians (EMTs) and paramedics. Paramedics with additional advanced training can perform more difficult and demanding pre-hospital medical procedures. Incidents as varied as automobile accidents, heart attacks, drowning, childbirth and gunshot wounds all require immediate, professional medical attention. As a paramedic, you will provide this vital attention as you care for and transport the sick or injured. Major topics to be covered include Patient Assessment, Pharmacology, Pediatrics, Ambulance/System Operations, Trauma, Respiratory Emergencies and Medical Emergencies.

The program begins in August every year and requires full-time enrollment. There is not a part-time option for this program. Students must have a current Emergency Medical Technician license to enroll in the Emergency Medical Technician - Paramedic program.

Course Number	Course Title	Credits
<b>Core Courses</b>		
531-151	Paramedic Fundamentals	5
531-152	Paramedic Pharmacology	4
531-155	Respiratory Management	2
531-156	Cardiology I	3
531-157	Clinical I - EMT/Paramedic	4
531-158	Cardiology II	3
531-159	Medical Emergencies	3
531-164	Paramedic Trauma	3
531-165	Emergency Care for Specialists	3
531-166	EMS Operations	3
531-167	Clinical II - EMT/Paramedic	3
<b>Total</b>		<b>36</b>

(continued)

# LAW, PUBLIC SAFETY AND SECURITY (CONT.)

## Emergency Medical Technician - Paramedic (cont.)

An EMT - Paramedic Exit Assessment is a graduation requirement for this program.  
Students will need to complete Basic Math Proficiency.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy /Advanced Standing - take 1st semester	
890-130	Career Development - take 2nd semester	

## Judicial Reporting

### Associate of Applied Science Degree:

#### 10-106-1

*(Technical Studies classes at Lakeshore Technical College  
General Education classes at MPTC Fond du Lac Campus)*

You've seen high-profile trials with a person keying the testimony into a stenograph machine or reading the scrolling captions for the hearing-impaired on your TV screen. The person recording the spoken words at speeds ranging from 180 to 225 words a minute is a judicial reporter. If you're an excellent listener, enjoy keyboarding, have strong language and communications skills, and are committed to accuracy and confidentiality, a career in judicial reporting may be a perfect fit for you.

Course Number	Course Title	Credits
<b>Moraine Park Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	
809-122	Introduction to American Government (or)	3
809-172	Race, Ethnic and Diversity Studies	
809-196	Introduction to Sociology	3
809-195	Economics (or)	3
809-144	Macroeconomics (LTC)	
<b>Lakeshore Courses</b>		
106-104	Realtime Reporting I	5
106-143	Judicial Reporting Internship	1
106-144	Realtime Reporting Orientation	1
106-159	Legal Terminology	1
106-184	English for Realtime Reporters	1
106-804	Realtime Reporting I Lab	1
106-105	Realtime Reporting II	5
106-158	Realtime Reporting Technology	2
106-805	Realtime Reporting II Lab	1
106-108	Realtime Reporting Speed Development	2
106-109	Literary 1	2
106-128	Jury Charge 1	2
106-156	Testimony 1	3

Course Number	Course Title	Credits
106-161	Realtime Reporting Technology Advanced	2
106-809	Literary I Lab	1
106-828	Jury Charge I Lab	1
106-859	Testimony I Lab	1
804-123	Math With Business Applications (or)	3
804-107	College Mathematics (MPTC) (or)	
806-122	Natural Sciences in Society (MPTC)	
106-111	Literary II	2
106-129	Jury Charge II	2
106-142	Judicial Reporting Procedures	2
106-157	Testimony II	3
106-171	Medical Reporting and Terminology	2
106-811	Literary II Lab	1
106-829	Jury Charge II Lab	1
106-857	Testimony II Lab	1
<b>Total</b>		<b>65</b>

It is recommended that associate of applied science degree students take 106-161 Realtime Reporting Technology Advanced.

## Paralegal

### Associate of Applied Science Degree:

#### 10-110-1

*(Shared With Lakeshore Technical College)*

Paralegals work under the supervision of lawyers in a range of tasks—researching the law; investigating; preparing for hearings, trials and real estate closings; interviewing clients and witnesses; and preparing legal documents and other legal correspondence. Paralegals cannot give legal advice or represent clients in court. If you are detail-oriented, organized, and strong in communications and enjoy researching and analyzing facts, you might find a career as a paralegal very rewarding.

Course Number	Course Title	Credits
<b>Moraine Park Courses</b>		
801-195	Written Communication	3
809-196	Introduction to Sociology	3
101-155	Accounting for Professionals (LTC) (or)	3
101-112	Accounting 1	4
801-196	Oral and Interpersonal Communication	3
809-198	Introduction to Psychology	3
809-122	Introduction to American Government (or)	3
809-166	Introduction to Ethics: Theory and Application	3
804-107	College Mathematics (or)	3
806-122	Natural Sciences in Society	
809-195	Economics	3

Course Number	Course Title	Credits
<b>Lakeshore Courses</b>		
110-101	Introduction to Paralegalism and Legal Ethics (Prerequisite to all specialty courses)	3
110-130	<b>Real Estate Law – Paralegal*</b>	3
110-102	<b>Civil Litigation I</b>	3
110-104	<b>Legal Research</b>	3
110-106	<b>Family Law*</b>	3
110-141	Computer Applications-Legal (Replaces Computer Literacy)	3
110-103	<b>Civil Litigation II</b> (Prerequisite is 110-102 Civil Litigation I)	3
110-105	<b>Legal Writing</b> (Prerequisite is 110-104 Legal Research)	3
110-115	<b>Administrative Law*</b>	3
110-107	<b>Legal Aspect of Business Organizations</b>	3
110-114	<b>Administration of Estates*</b>	3
110-142	Paralegal Internship (or)	3
110-145	Paralegal Studies	
110-168	<b>Criminal Law-Paralegal</b>	3
xxx-xxx	Elective	3
<b>Total</b>		<b>66</b>

\*Following classes may be substituted for this course:

- 110-160 Employment Law – 3 Crs.
- 110-122 Debtor and Creditor Relations – 3 Crs.
- 101-123 Accounting Income Tax 1 – 4 Crs.

ABA-approved specialty courses that teach skills specific to Paralegals are bold faced. Student must take four of these courses face-to-face or IVC.

## Paramedic Technician

### Associate of Applied Science Degree:

#### 10-531-1

Moraine Park Technical College's Paramedic Technician program prepares students to perform pre-hospital medical procedures. People's lives often depend on the quick reaction and competent care of emergency medical technicians (EMTs) and paramedics. Paramedics with additional advanced training can perform more difficult and demanding pre-hospital medical procedures. Incidents as varied as automobile accidents, heart attacks, drowning, childbirth and gunshot wounds all require immediate, professional medical attention. As a paramedic, you will provide this vital attention as you care for and transport the sick or injured. Major topics to be covered include Patient Assessment, Pharmacology, Pediatrics, Ambulance/System Operations, Trauma, Respiratory Emergencies and Medical Emergencies.

(continued)

## Paramedic Technician (cont.)

Students must enroll full time in the core Paramedic Technician courses, which begin in August every year. General Studies courses may be completed on a part-time basis for this program. Students must have a current Emergency Medical Technician license to enroll in the Paramedic Technician program.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
531-151	Paramedic Fundamentals	5
531-152	Paramedic Pharmacology	4
531-155	Respiratory Management	2
531-156	Cardiology I	3
531-157	Clinical I - EMT/Paramedic	4
531-158	Cardiology II	3
531-159	Medical Emergencies	3

Course Number	Course Title	Credits
531-164	Paramedic Trauma	3
531-165	Emergency Care for Specialists	3
531-166	EMS Operations	3
531-167	Clinical II - EMT/Paramedic	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication	3
806-177	General Anatomy and Physiology	4
806-179	Advanced Anatomy and Physiology	4
806-197	Microbiology	4
809-166	Introduction to Ethics: Theory and Application	3
809-188	Developmental Psychology	3
809-196	Introduction to Sociology	3
809-198	Introduction to Psychology	3
<b>Total</b>		<b>66</b>

A Paramedic Technician Exit Assessment is a graduation requirement for this program.

Course Number	Course Title	Credits
<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy /Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

## MANUFACTURING

### Basic Industrial Maintenance Certificate

**Certificate: 97-462-1**

The Basic Industrial Maintenance Certificate prepares students to apply a variety of skills to industrial maintenance areas. The coursework provides basic instruction and hands-on experiences to develop broad-based skills in areas such as electricity, machine tools, hydraulics and pneumatics, and robotics to perform in industrial settings.

Course Number	Course Title	Credits
<b>Core Courses</b>		
462-301	DC/AC Electricity	4
462-303	Hydraulics/Pneumatics Applications	3
462-305	Mechanical Skills for Technicians	2
462-309	Industrial Control Systems	4
462-313	Blueprint/Schematic Reading	2
<b>Total</b>		<b>15</b>

Areas of study include the following:

- > How to operate machine tools
- > Computer operations
- > Entry-level CNC programming
- > CNC setup
- > CNC operation
- > Industrial trades math
- > Blueprint reading
- > How to use measuring equipment

Course Number	Course Title	Credits
<b>Core Courses</b>		
439-310	Basic Machining	1
439-311	Basic Machining Applications	4
439-398	Mold and Die Print Reading	2
444-333	Basics of Metrology	1
444-339	Computer-Aided Machining (CAM) - 2D Surfcam	2
444-350	Basic Programming	3
444-370	Turning Center Operation	4
<b>Technical Support Courses</b>		
804-360	Occupational Mathematics 1	2
<b>Total</b>		<b>19</b>

computer-aided machining; use measuring equipment; and build jigs and fixtures. Students prepare for a lean manufacturing environment.

Students select the CNC or Tool and Die track for the second year of study.

The CNC track focuses on: programming Coordinate Measuring Equipment (CMM); programming/operation of both vertical and horizontal machining centers as well as turning centers; three-dimensional computer-aided machining; and electrical discharge machining (EDM) both ram and wire. Students also study programming of water jets and lasers.

Graduates can program online (at the machine) or offline using a computer and a CAD/CAM system in a job-shop or a tool and die environment.

The Tool and Die track focuses on: building and testing mold and stamping dies; advanced milling, drilling and lathe work; electrical discharge machining; precision surface grinding; heat treating; and three-dimensional computer-aided machining.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes.

*(continued)*

### CNC Set-Up/Operator Certificate

**Certificate: 97-444-1**

This certificate is designed to develop the skills of an individual who has limited or no manufacturing background in the setup and operation of CNC equipment. CNC operators operate equipment and maintain quality control of parts being machined. CNC setup operators handle the initial start-up of a program and troubleshoot CNC machine tools.

### CNC/Tool and Die Technologies

**Technical Diploma: 32-444-2**

Moraine Park's CNC/Tool and Die Technologies program combines skills from the CNC Programming and Tool and Die Making disciplines. First-year students: operate machine tools (lathes, milling machines, grinders, drill presses); read blueprints; perform entry-level CNC programming; operate two-dimensional

# MANUFACTURING (CONT.)

## CNC/Tool and Die Technologies (cont.)

The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates can analyze specs, lay out metal stock, construct and design dies and molds; and set up various machine tools. They also possibly gain one year of credit toward apprenticeship.

Course Number	Course Title	Credits
<b>Core Courses (Both Tracks)</b>		
439-304	Jigs and Fixtures	4
439-310	Basic Machining	1
439-311	Basic Machining Applications	4
439-312	Machining Technologies	1
439-313	Machining Technologies Applications	4
439-398	Mold and Die Print Reading	2
444-333	Basics of Metrology	1
444-339	Computer-Aided Machining (CAM) 2D - Surfcam	2
444-340	Computer-Aided Machining (CAM) 2D - Mastercam	2
444-341	Computer-Aided Machining (CAM) 3D	3
444-350	Basic Programming	3
617-116	AutoCAD, Beginning Level	2
617-150	Material Selection	2
<b>CNC Track</b>		
444-332	Introduction to Coordinate Measuring Machine (CMM) Programming	2
444-345	Design for 3D Machining	3
444-351	Machining Center Programming	4
444-360	Machining Center Operation	4
444-370	Turning Center Operation	4
444-371	Turning Center Programming	4
444-380	EDM and Nonconventional Machining	4
<b>Tool and Die Making Track</b>		
439-325	Pierce and Blank Die Making	1
439-326	Pierce and Blank Die Making Applications	5
439-327	Compound and Progressive Die Making	1
439-328	Compound and Progressive Die Making Applications	5
439-335	Single-Cavity Mold Making	1
439-336	Single-Cavity Mold Making Applications	5
439-337	Multi-Cavity Mold Making	1
439-338	Multi-Cavity Mold Making Applications	5

Course Number	Course Title	Credits
<b>Technical Support Courses (Both Tracks)</b>		
801-310	Occupational Communication and 809-300 Occupational Success Strategies or 801-198 Speech	2
804-360	Occupational Mathematics 1	2
804-361	Occupational Mathematics 2	2
804-362	Occupational Mathematics 3	2
<b>Total</b>		<b>64-67</b>

A CNC/Tool and Die Technologies Exit Assessment is a graduation requirement for this program.

Students must purchase tool kits for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Computer Numerical Control Certificate

**Certificate: 97-628-1**

Manufacturers are continually looking for employees skilled in Computer Numerical Control (CNC) setup, operations and programming. The Computer Numerical Control Certificate provides the fundamental concepts of CNC as well as hands-on coursework with Computer-Aided Drafting (CAD) software and running the machining equipment using CNC.

Individuals who have experience in manufacturing and are looking for a shorter-term training may find this certificate offers a good option. Courses are directly transferable to Moraine Park's Process Engineering Technology associate of applied science degree if students wish to further their education in this field.

Course Number	Course Title	Credits
<b>Core Courses</b>		
103-159	Computer Literacy - Microsoft Office	1
606-176	CAD 2-D, AutoCAD	3
623-110	Technical Print Reading (or)	2
623-122	Print Reading Principles	
623-162	Manufacturing Processes	3
628-122	Basic CNC Programming and Operation	3
628-132	Advanced CNC Programming and Operation	3
<b>Total</b>		<b>15</b>

## Industrial Maintenance Technician

**Technical Diploma: 32-462-1**

The Industrial Maintenance Technician program prepares students to enter several technology-driven fields; i.e., manufacturing, food and beverage processing and building maintenance. The skills for installation, preventive maintenance, troubleshooting and repair continue to be in high demand. The Industrial Maintenance Technician program provides students training in the areas of fluid power (hydraulics and pneumatics), industrial electrical/electronics and instrumentation, machining, welding, programmable logic control (PLC), motor control and automation.

Students will develop a wide variety of technical skills in electrical/electronics, fluid power, mechanical systems, computers and computer-controlled interface units. Programmable logic controllers, motors and drives, servo hydraulic systems and closed loop positioning will be studied. A comprehensive understanding of how these technical skill areas are linked together to create automated systems is developed through hands-on project coursework that allows the student to put together the various technologies into a computer-integrated system.

Course Number	Course Title	Credits
<b>Core Courses</b>		
442-313	General Welding	2
462-301	DC/AC Electricity	4
462-303	Hydraulics/Pneumatics Applications	3
462-305	Mechanical Skills for Technicians	2
462-309	Industrial Control Systems	4
462-311	Machine and Equipment Installation	3
462-313	Blueprint/Schematic Reading	2
462-315	Microprocessor Applications	3
462-317	Preventative/Predictive Maintenance	3
462-319	Programmable Logic Controllers	3
462-321	Power Transmission Systems	3
462-323	Semi-Conductors and Digital Electronics	3
462-324	Integrated Manufacturing Center Project Planning	2
462-325	Robotics/Material Handling Operations	3
462-326	Industrial Safety	2
462-327	Electro-Hydraulic/Mechanical Systems	4
462-330	Integrated Manufacturing Center Project Implementation	3

(continued)

## Industrial Maintenance Technician (cont.)

Course Number	Course Title	Credits
<b>Technical Support Courses</b>		
801-310	Occupational Communication	2
801-322	Occupational Writing	1
804-360	Occupational Mathematics 1 (or)	2
804-113	College Technical Mathematics 1A	
804-361	Occupational Mathematics 2 (or)	2
804-114	College Technical Mathematics 1B	
<b>Total</b>		<b>56</b>

An Industrial Maintenance Technician Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Mechatronics

### Associate of Applied Science Degree: 10-620-2

Mechatronics integrates theories and applications in mechanical, electrical and electronic systems, fluid power, robotics and computer software to prepare students to work effectively in a variety of industrial settings. The Mechatronics program teaches students a broad array of job-ready skills that involve integrating technologies and systems-thinking required to effectively problem solve, program, operate and maintain electro-mechanical and automated equipment.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
612-103	Industrial Hydraulics and Pneumatics I	2
620-101	DC Circuits	3
620-102	AC Circuits	3
620-103	Semiconductor Devices	3
620-104	Digital Electronics	2
620-115	AC-DC Machinery	4
620-133	Mechatronic Controls	3
620-135	Programmable Controllers	3
620-136	Advanced Programmable Controllers	3
620-146	Control Logics	4
620-150	PC Interfacing and Communications	3
620-151	Servomechanisms	3
620-110	Integrated Manufacturing, Planning - Mechatronics	2
620-111	Integrated Manufacturing, Production - Mechatronics	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-197	Technical Reporting	3
809-166	Introduction to Ethics: Theory and Application	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	
804-113	College Technical Math 1A	3

Course Number	Course Title	Credits
804-114	College Technical Math 1B	2
804-116	College Technical Math 2	4
806-137	Comprehensive Technical Physics	4
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>68</b>

A Mechatronics Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Metal Fabrication

### Technical Diploma: 31-457-2

Moraine Park's two-semester metal fabrication technical diploma helps individuals develop fabrication skills that are used in today's industries. Students gain skills in fabricating that can lead to FMA Precision Sheet Metal certification through hands-on experience. Students build metal products start to finish. Students read prints and learn automated cutting, forming and welding using lean practices. Students learn gas metal arc welding, shielded metal arc welding, gas tungsten arc welding and oxy-fuel cutting. The coursework also provides instruction in math and communications skills.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
442-309	Introduction to Welding Processes	4
457-345	Metal Fabrication	4
457-346	Advanced Fabrication Techniques	4
457-347	Metallurgy	2
457-348	Metal Cutting and Forming Processes	3
623-110	Technical Print Reading	2
623-162	Manufacturing Processes	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-310	Occupational Communication	2
804-360	Occupational Mathematics 1	2
<b>Total</b>		<b>26</b>

A Metal Fabrication Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

## Quality Assurance Certificate Certificate: 97-623-1

The Quality Assurance Certificate is designed for quality control technicians responsible for implementing a quality plan and function within a manufacturing organization. Students gain knowledge and skills in:

- > Quality assurance concepts.
- > Basic statistics.
- > Quality and process control (SPC and acceptance sampling).
- > Quality planning (ISO-9000, benchmarking, quality costs).
- > Metrology and geometric tolerancing.
- > Preparing for the American Society for Quality Control (ASQC) Certified Quality Technician Exam.

This certificate allows students to take associate of applied science degree or technical diploma courses without the time commitment of a full-time program. Several of the certificate's credits are directly transferred into the Process Engineering Technology associate of applied science degree.

Course Number	Course Title	Credits
<b>Core Courses</b>		
623-118	Gage Calibration, Repeatability and Reproducibility	3
623-157	Applied Statistics/6 Sigma Concepts	3
623-158	Certified Quality Technician Primer Course	2
623-167	ISO 9000/2000 and Auditing	3
623-190	Basic Metrology	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3
628-136	Statistical Process Control	3
<b>Technical Support Courses</b>		
804-113	College Technical Mathematics 1A	3
<b>Total</b>		<b>23</b>

# MANUFACTURING (CONT.)

## Quality Assurance Certificate (Evening Degree Program Offerings)

### Certificate: 97-623-1

The Quality Assurance Certificate is designed for quality control technicians responsible for implementing a quality plan and function within a manufacturing organization. Students gain knowledge and skills in:

- > Quality assurance concepts.
- > Basic statistics.
- > Quality and process control (SPC and acceptance sampling).
- > Quality planning (ISO-9000, benchmarking, quality costs).
- > Metrology and geometric tolerancing.
- > Preparing for the American Society for Quality Control (ASQC) Certified Quality Technician Exam.

This certificate allows students to take associate of applied science degree or technical diploma courses without the time commitment of a full-time program. Several of the certificate's credits are directly transferred into the Process Engineering Technology associate of applied science degree.

Course Number	Course Title	Credits
<b>Core Courses</b>		
623-118	Gage Calibration, Repeatability and Reproducibility (or)	3
623-157	Applied Statistics/6 Sigma Concepts or 628-132	3
623-158	Certified Quality Technician Primer Course	2
623-167	ISO 9000/2000 and Auditing or 623-142	3
623-190	Basic Metrology	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3
628-136	Statistical Process Control	3
<b>Technical Support Courses</b>		
804-113	College Technical Mathematics 1A	3
<b>Total</b>		<b>23</b>

The evening degree program is designed for students who can only attend college part-time. The Quality Assurance Certificate program may be completed in five years.

## Welding

### Technical Diploma: 31-442-1

Moraine Park's two-semester Welding technical diploma helps individuals develop welding and fabrication skills that are used in today's industries. Students gain skills in all position welding that can lead to welder certification through hands-on experience in a welding laboratory. Students learn gas metal arc welding, shielded metal arc welding, gas tungsten arc welding, and oxy-fuel cutting. The coursework also provides instruction in print reading, math and communications skills.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem-solving strategies, apply mathematical reasoning, think critically and adapt to change.

Course Number	Course Title	Credits
<b>Core Courses</b>		
442-309	Introduction to Welding Processes	4
442-310	Shielded and Gas Metal Arc Welding (SMAW/GMAW)	4
442-315	Gas Tungsten Arc Welding	4
442-316	Advanced Welding Techniques	4
442-331	Welding Print Reading	2
457-345	Metal Fabrication	4
<b>Technical Support Courses</b>		
801-310	Occupational Communication	2
804-360	Occupational Mathematics 1	2
<b>Total</b>		<b>26</b>

A Welding Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>2nd</b> semester

# MARKETING, SALES AND SERVICE

## Marketing

### Associate of Applied Science Degree: 10-104-3

The Marketing program exposes students to be responsive to marketplace conditions and customer expectations. Coursework is designed to develop a strong understanding of marketing concepts and how to apply marketing techniques to diverse activities, processes and environments.

Graduates bring a range of skills to the business world, such as incorporating computer technology into marketing functions, conducting a sales interview, using advertising to market a product or service, sales promotion and merchandising, and supervisory roles. They work in manufacturing,

wholesaling and retail businesses in positions such as sales, advertising, merchandising, department manager and store manager.

Successful marketing professionals enjoy working with people, have excellent communication skills and present a professional appearance.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
104-102	Marketing Principles	4
104-103	International Business Practice Firm	3
104-104	Market Research	3
104-105	Selling	3
104-107	Merchandising Management	3
104-110	Global Marketing	3
104-113	Marketing Management Analysis	3
104-116	Database Marketing	3

Course Number	Course Title	Credits
104-117	Electronic Marketing Media	3
104-119	Promotion	3
104-125	Advertising	3
105-154	Career Internship, Business and Culinary Arts (90 hrs.)	2
196-189	Team Building and Problem Solving	3
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	3
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3

(continued)

**Marketing (cont.)**

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	
Students must choose an additional three credits of electives.		
<b>Total</b>		<b>66</b>

A Marketing Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

**Marketing—Business-to-Business**

**Associate of Applied Science Degree: 10-104-6**

The Marketing—Business-to-Business program equips students with the expertise and technological skills required to effectively market a business's goods and services to regional, national and international markets. Using class projects and real-world experiences, students

develop knowledge of marketing concepts and how to apply techniques and strategies when marketing to other businesses.

Job opportunities exist in manufacturing, wholesale and service businesses. Business-to-business marketers possess strong communication skills, portray a professional image, tend to be self-motivated, incorporate computer technology into marketing functions, and often work in collaboration with other departments, such as product development, engineering, logistics and finance.

This program is designed for employed adults and is offered in an accelerated format. (Not recommended for recent high school graduates.) Classes run six or eight weeks and meet one evening each week for four hours. Technical studies courses are offered at scheduled times, while general studies and elective courses may be taken at any time.

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
<b>Technical Studies Courses</b>		
101-108	Accounting for Non-Accountants	3
104-102	Marketing Principles	4
104-104	Market Research	3
104-105	Selling	3
104-110	Global Marketing	3

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
104-113	Marketing Management Analysis	3
104-116	Database Marketing	3
104-118	e-Business Marketing Strategies	3
104-119	Promotion	3
104-123	Supply Management	3
104-156	Marketing—Business-to-Business	3
104-175	Marketing Presentations	3
104-180	Business-to-Business Careers	3
105-160	Business Law	3

**General Studies Courses**

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-198	Speech	
804-107	College Mathematics	3
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-196	Introduction to Sociology	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	

Students must choose an additional three credits of electives.

**Total 67**

A Marketing—Business-to-Business Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

**SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS**

**Engine Research and Development Technician**

**Associate of Applied Science Degree: 10-606-5**

The Engine Research and Development Technician program trains students to assist engineers in engine development and design. Engine technicians conduct tests to determine engine characteristics such as torque and horsepower curves, engine efficiencies, exhaust emissions and durability. Data is collected using technologies such as engine dynamometers, engine transducers and data acquisition systems.

Graduates of the program become test lab technicians and other technical employees for manufacturers of internal combustion engines. Engine research and development technicians need strong mechanical aptitude, sound math and science skills, and an interest in internal combustion engines.

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
<b>Technical Studies Courses</b>		
106-138	Computer Essentials	2
606-150	Electronics and Instrumentation	3
606-155	Ignition Fuels and Combustion	4
606-164	Engine Fundamentals	3
606-167	Engine Development and Design	2
606-168	Engine Testing and Testing Equipment	5
606-169	Engine Emission Testing and Controls	3
606-173	Engine Problems	3
606-174	Transmission of Power	3
606-176	CAD 2-D, AutoCAD	3
623-162	Manufacturing Processes	3
628-135	Principles of Machining	2
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
806-137	Comprehensive Technical Physics	4

<b>Course Number</b>	<b>Course Title</b>	<b>Credits</b>
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-199	Psychology of Human Relations (or)	3
809-198	Introduction to Psychology	
Students must choose an additional three credits of electives.		
<b>Total</b>		<b>63</b>

An Engine Research and Development Technician Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**

890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester



# SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (CONT.)

## Mechanical Design Technology

### Associate of Applied Science Degree:

#### 10-606-1

Moraine Park's Mechanical Design Technology program prepares students to assist engineers in the design of products and the preparation of computerized drawings for all types of machines and manufacturing industries. Coursework emphasizes computer-aided design (CAD) techniques, project and product development, and understanding various materials used in design and manufacturing.

Successful mechanical design technicians have strong computer and visualization skills, are detail oriented, have sound math skills and have a mechanical aptitude.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates find jobs with a variety of manufacturing industries including metal fabrication companies, industrial equipment manufacturers, paper equipment manufacturers, consumer product companies and recreational equipment firms.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
606-103	Design Specifications	3
606-107	Component Design	4
606-111	Integrated Manufacturing Production - Mechanical Design	2
606-112	Integrated Manufacturing Planning - Mechanical Design	2
606-116	Machine Elements	3
606-125	Product Design	4
606-128	Design Statics	3
606-130	Strength of Materials	3
606-132	Materials of Industry	3
606-170	CAD 3-D, NX (Unigraphics)	3
606-176	CAD 2-D, AutoCAD	3
617-134	Principles of Design	3
623-162	Manufacturing Processes	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3

Course Number	Course Title	Credits
<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	3
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
804-116	College Technical Mathematics 2	4
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>69</b>

A Mechanical Design Technology Exit Assessment is a graduation requirement for this program.

<b>Institutional Requirements</b>		
890-125	Student Success - take <b>1st</b> semester	
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester	
890-130	Career Development - take <b>3rd</b> semester	

## Mechanical Design Technology

### (Evening Degree Program Offerings)

#### Associate of Applied Science Degree:

#### 10-606-1

Moraine Park's Mechanical Design Technology program prepares students to assist engineers in the design of products and the preparation of computerized drawings for all types of machines and manufacturing industries. Coursework emphasizes computer-aided design (CAD) techniques, project and product development, and understanding various materials used in design and manufacturing.

Successful mechanical design technicians have strong computer and visualization skills, are detail oriented, have sound math skills and have a mechanical aptitude.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate

integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates find jobs with a variety of manufacturing industries including metal fabrication companies, industrial equipment manufacturers, paper equipment manufacturers, consumer product companies and recreational equipment firms.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
606-103	Design Specifications	3
606-107	Component Design	4
606-111	Integrated Manufacturing Production - Mechanical Design	2
606-112	Integrated Manufacturing Planning - Mechanical Design	2
606-116	Machine Elements	3
606-125	Product Design	4
606-128	Design Statics	3
606-130	Strength of Materials	3
606-132	Materials of Industry	3
606-170	CAD 3-D, NX (Unigraphics)	3
606-176	CAD 2-D, AutoCAD	3
617-134	Principles of Design	3
623-162	Manufacturing Processes	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3
606-171	Advanced CAD, NX (Unigraphics) (Elective)	

<b>General Studies Courses</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	3
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
804-116	College Technical Mathematics 2	4
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3
Students must choose an additional three credits of electives.		3

**Total** **69**  
A Mechanical Design Technology Exit Assessment is a graduation requirement for this program.

**Institutional Requirements**  
890-125 Student Success - take **1st** semester  
103-159 Computer Literacy/Advanced Standing - take **1st** semester  
890-130 Career Development - take **3rd** semester  
The evening degree program is designed for students who can only attend college part-time. The Mechanical Design Technology associate of applied science degree program may be completed in five years.

# SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (CONT.)

## Process Engineering Technology

*Industrial/Manufacturing Track; Quality Assurance Track; or Environmental, Health and Safety Management Track*

### Associate of Applied Science Degree: 10-623-8

The Process Engineering Technology program combines the foundational skills related to industrial engineering with the skills of computerized manufacturing. Students learn the planning, setup, monitoring, analyzing and controlling of integrated systems in order to improve efficiencies in a manufacturing environment, standardize and streamline processes, and initiate cost savings for businesses. Applications in problem solving and automated technologies are emphasized.

Although a broad range of manufacturing skills are covered, students in the final stages of coursework select a specialized training track in either Industrial/Manufacturing; Quality Assurance; or Environmental, Health and Safety Management.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates are trained to work as members of teams consisting of engineers and production workers in a variety of industrial and manufacturing settings.

Course Number	Course Title	Credits
<b>Technical Studies Courses (both tracks)</b>		
606-170	CAD 3-D, NX (Unigraphics) (or)	3
617-112	CAD 3-D, Pro-Engineer (or)	
617-114	CAD 3-D, SolidWorks	
606-176	CAD 2-D, AutoCAD	3
617-134	Principles of Design	3
623-118	Gage Calibration, Repeatability and Reproducibility (or)	3
628-122	Basic CNC Programming and Operation	
623-151	Lean Manufacturing	3
623-162	Manufacturing Processes	3
623-170	Process Planning	2
623-190	Basic Metrology	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3
628-110	Integrated Manufacturing Planning - Process Engineering Technology	2
628-111	Integrated Manufacturing Production - Process Engineering Technology	2
628-136	Statistical Process Control	3
<b>Industrial/Manufacturing Track Technical Studies Courses</b>		
628-132	Advanced CNC Programming and Operation	3
628-133	Robotics and Automated Material Handling	3
628-142	Computer-Aided Manufacturing	3
<b>Quality Assurance Track Technical Studies Courses</b>		
623-106	Quality Tools	3
623-157	Applied Statistics/6 Sigma Concepts	3
623-167	ISO 9000/2000 and Auditing	3
<b>Environmental, Health and Safety Management Track Technical Studies Courses</b>		
196-136	Safety in the Workplace	3
623-167	ISO 9000/2001 and Auditing	3
623-152	ISO 14001/2004	3
<b>Students are required to take any 3 of the 8 track courses listed above.</b>		
<b>General Studies Courses (all tracks)</b>		
801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
806-137	Comprehensive Technical Physics	4
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	
Students must choose an additional three credits of electives.		3
<b>Total</b>		<b>69</b>
A Process Engineering Technology Exit Assessment is a graduation requirement for this program.		
<b>Institutional Requirements</b>		
890-125	Student Success - take 1st semester	
103-159	Computer Literacy/Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

## Process Engineering Technology

*Industrial/Manufacturing Track; Quality Assurance Track; or Environmental, Health and Safety Management Track*

### (Evening Degree Program Offerings) Associate of Applied Science Degree: 10-623-8

The Process Engineering Technology program combines the foundational skills related to industrial engineering with the skills of computerized manufacturing. Students learn the planning, setup, monitoring, analyzing and controlling of integrated systems in order to improve efficiencies in a manufacturing environment, standardize and streamline processes, and initiate cost savings for businesses. Applications in problem solving and automated technologies are emphasized.

Although a broad range of manufacturing skills are covered, students in the final stages of coursework select a specialized training track in either Industrial/Manufacturing; Quality Assurance; or Environmental, Health and Safety Management.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates are trained to work as members of teams consisting of engineers and production workers in a variety of industrial and manufacturing settings.

Course Number	Course Title	Credits
<b>Technical Studies Courses (Both Tracks)</b>		
606-170	CAD 3-D, NX (Unigraphics) (or)	3
617-112	CAD 3-D, Pro-Engineer (or)	
617-114	CAD 3-D, SolidWorks	
606-176	CAD 2-D, AutoCAD	3
617-134	Principles of Design	3

(continued)

# SCIENCE, TECHNOLOGY, ENGINEERING AND MATHEMATICS (CONT.)

## Process Engineering Technology (cont.)

### (Evening Degree Program Offerings)

Course Number	Course Title	Credits
623-118	Gage Calibration, Repeatability and Reproducibility (or)	3
628-122	Basic CNC Programming and Operation	3
623-151	Lean Manufacturing	3
623-162	Manufacturing Processes	3
623-170	Process Planning	2
623-190	Basic Metrology	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3
628-110	Integrated Manufacturing Planning - Process Engineering Technology	2
628-111	Integrated Manufacturing Production - Process Engineering Technology	2
628-136	Statistical Process Control	3

### Industrial/Manufacturing Track Technical Studies Courses

628-132	Advanced CNC Programming and Operation (or)	3
628-133	Robotics and Automated Material Handling (or)	3
628-142	Computer-Aided Manufacturing	3

### Quality Assurance Track Technical Studies Courses

623-106	Quality Tools	3
623-157	Applied Statistics/6 Sigma Concepts or 628-132	3
623-167	ISO 9000/2000 and Auditing or 623-142	3

### Environmental, Health and Safety Management Track Technical Studies Courses

196-136	Safety in the Workplace	3
623-152	ISO 14001/2004	3
623-167	ISO 9000/2000 and Auditing or 623-142	3

Students are required to take any 3 of the 8 track courses listed above.

### General Studies Courses (all tracks)

801-195	Written Communication	3
801-196	Oral and Interpersonal Communication (or)	3
801-197	Technical Reporting	3
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
806-137	Comprehensive Technical Physics	4
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3

Students must choose an additional three credits of electives.

**Total 69**

A Process Engineering Technology Exit Assessment is a graduation requirement for this program.

Course Number	Course Title	Credits
890-125	Student Success - take 1st semester	
103-159	Computer Literacy/Advanced Standing - take 1st semester	
890-130	Career Development - take 3rd semester	

The evening degree program is designed for students who can only attend college part-time. The Process Engineering Technology Associate of Applied Science degree program may be completed in five years.

## Tool Design Engineering Technology

### Associate of Applied Science Degree: 10-617-1

Moraine Park's Tool Design Engineering Technology program provides students with the high-level manufacturing skills required in Wisconsin's evolving tool and die industry for the national and international customers it serves. Critical to the manufacturing workforce, tool design engineers design fixtures, parts, molds and stamping dies with the latest CAD (computer-aided design) software. While coursework emphasizes the computerized design aspect of tool and die making, students have combined classroom and shop instruction to experience hands-on machine operations to understand how to select appropriate materials and how their designs are applied on the shop floor. Students in the last semester have the opportunity to participate in an internship.

Tool design engineers need strong spatial aptitude, enjoy precision work and have an interest in machines and mechanical processes.

Representatives from business and industry have identified skills that are essential to success in manufacturing. Students will be expected to demonstrate the critical core manufacturing skills throughout all the manufacturing classes. The critical core manufacturing skills include: work cooperatively, work productively, listen effectively, demonstrate a positive attitude, maintain a safe work environment, demonstrate integrity, communicate clearly, follow directions, apply problem solving strategies, apply mathematical reasoning, think critically and adapt to change.

Graduates are prepared to immediately enter the industry as designers working on new tooling projects. Employers are looking for individuals who have the strong skill and knowledge base provided by this program.

Course Number	Course Title	Credits
<b>Technical Studies Courses</b>		
606-170	CAD 3-D, NX (Unigraphics) (or)	3
617-114	CAD 3-D, SolidWorks (or)	
617-112	CAD 3-D, Pro-Engineer	
606-176	CAD 2-D, AutoCAD	3
617-115	Jig and Fixture Design	3
617-120	Die Making Processes	3
617-123	Advanced SolidWorks Assembly Modeling	3
617-125	Blanking and Compound Die Design	3
617-126	Progressive Bending and Draw Die Design	3
617-130	Mold Making Processes	3
617-134	Principles of Design	3
617-135	Two- and Three-Plate Mold Design	3
617-136	Side-Action and Hot-Runner Mold Design	3
617-138	Integrated Manufacturing Planning - Tool Design Engineering	2
617-139	Integrated Manufacturing Production - Tool Design Engineering	2
623-162	Manufacturing Processes	3
623-196	Geometric Dimensioning and Tolerancing With CMM Verification	3

### General Studies Courses

801-195	Written Communication	3
801-197	Technical Reporting (or)	3
801-196	Oral and Interpersonal Communication	
804-113	College Technical Mathematics 1A	3
804-114	College Technical Mathematics 1B	2
806-137	Comprehensive Technical Physics (or)	4
804-116	College Technical Mathematics 2	4
809-166	Introduction to Ethics: Theory and Application	3
809-195	Economics	3
809-198	Introduction to Psychology (or)	3
809-199	Psychology of Human Relations	3

Students must choose an additional three credits of electives.

**Total 70**

A Tool Design Engineering Technology Exit Assessment is a graduation requirement for this program.

### Institutional Requirements

890-125	Student Success - take 1st semester
103-159	Computer Literacy/Advanced Standing - take 1st semester
890-130	Career Development - take 3rd semester

# TRANSPORTATION, DISTRIBUTION AND LOGISTICS

## Automotive Technician

### Technical Diploma: 32-404-2

The Automotive Technician program is offered as a four-semester technical diploma. Students learn to test, diagnose and service a variety of electronic, electrical and mechanical systems and components found in automotive vehicles. Mechanical aptitude, communication skills and an interest in the automotive industry are important to a successful automotive technician career. After completing the first year of the program, students are qualified to work as entry-level service technicians in automotive repair facilities. Graduates of the two-year program work as skilled technicians in dealerships and independent repair facilities. Leads toward ASE certification.

Course Number	Course Title	Credits
<b>Core Courses</b>		
404-325	Automotive Fundamentals	3
404-326	Automotive Brakes	4
404-327	Steering and Suspension	4
404-328	Electrical and Electronic Systems 1	3
404-329	Electrical and Electronic Systems 2	3
404-330	Automotive Engine Fundamentals	2

Course Number	Course Title	Credits
404-331	Ignition Systems	2
404-332	Fuel Systems	2
404-333	Engine Repair	5
404-337	Automatic Transmission	4
404-338	Automotive Drivetrain	4
404-339	Advanced Chassis Systems	2
404-340	Light-Duty Diesel Engine Operation	2
404-341	Engine Performance	4
404-342	Climate Control Systems	3
404-390	Electricity for Technicians	2

<b>Technical Support Courses</b>		
442-314	Basic Welding 1	1
623-105	Metals for Technicians	1
801-195	Written Communication (or)	3
801-310	Occupational Communication (and)	2
809-300	Occupational Success Strategies	2
804-360	Occupational Mathematics 1	2
806-376	Applied Physics	2
<b>Total</b>		<b>58 or 59</b>

An Automotive Technician Exit Assessment is a graduation requirement for this program.

<b>Institutional Requirements</b>	
890-125	Student Success - take <b>1st</b> semester
103-159	Computer Literacy/Advanced Standing - take <b>1st</b> semester
890-130	Career Development - take <b>3rd</b> semester

## Small Engine Service Certificate Certificate: 97-606-1

The Small Engine Service Certificate is designed for individuals that are seeking employment in the home and garden and recreational vehicle repair industry. Students learn the fundamentals of engines and engine electricity and apply this knowledge in a small engine service course.

Graduates of this certificate may transfer their credits into Moraine Park's Engine Research and Development Technician associate of applied science degree if they wish to continue their education.

Course Number	Course Title	Credits
<b>Core Courses</b>		
404-390	Electricity for Technicians (or)	2
606-150	Electronics and Instrumentation	3
606-164	Engine Fundamentals	3
606-165	Small Engine Service	4
606-174	Transmission of Power	3
<b>Total</b>		<b>12 or 13</b>

# COURSE DESCRIPTIONS

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**091-105 Occupational Preparation - 1 Cr.** Provides Veterinary Technician applicants an opportunity to explore career opportunities and the Veterinary Technician program.

**091-106 Animal Husbandry - 3 Crs.** Concentrates on the husbandry of species commonly seen in veterinary practice. Breed identification, behavior, animal nutrition, animal welfare, reproduction, use of animals in research and diseases are emphasized. (Prerequisites: Completion of or concurrent enrollment in 091-170 Veterinary Medical Terminology and 801-195 Written Communication)

**091-107 Infectious Animal Disease - 3 Crs.** Covers etiology, symptoms, transmission, diagnosis, prevention and control of disease. Emphasizes reporting requirements, proper diagnostic sampling and high-exposure diseases that might involve the veterinary team and/or client. (Prerequisites: 091-106 Animal Husbandry; 091-170 Veterinary Medical Terminology; 806-105 Principles of Animal Biology)

**091-120 Veterinary Clinical Pathology 1 - 3 Crs.** Introduces Veterinary Clinical Pathology, including laboratory equipment and laboratory procedures in microscopy, hematology, urinalysis and parasitology. (Prerequisites: 091-106 Animal Husbandry; 091-170 Veterinary Medical Terminology; 806-105 Principles of Animal Biology)

**091-121 Veterinary Clinical Pathology 3 - 3 Crs.** Provides students with additional experience with clinical skills gained during Veterinary Clinical Pathology 1 and 2. Additional procedures include virology and necropsy. (Prerequisite: 091-124 Veterinary Clinical Pathology 2)

**091-124 Veterinary Clinical Pathology 2 - 3 Crs.** Provides students with additional experience with clinical skills gained during Veterinary Clinical Pathology 1. Additional procedures include microbiology. (Prerequisite: 091-120 Veterinary Clinical Pathology 1)

**091-125 Veterinary Office Management - 3 Crs.** Introduces modern veterinary hospital business practices, including developing good public, client and staff relations; client services and education; office procedures; marketing and computer skills; and advancement opportunities. Emphasizes professional ethics. (Prerequisites: 091-155 Hospital Supplies and Medicants; 091-172 Animal Care and Management 2)

**091-127 Surgical Nursing 1 - 3 Crs.** Covers patient prep, surgical instrument identification, pack preparation, surgical nursing and anesthesia. (Prerequisites: 091-140 Animal Anatomy and Physiology; 091-155 Hospital Supplies and Medicants; 091-172 Animal Care and Management 2)

**091-128 Large Animal Nursing - 2 Crs.** Builds on veterinary nursing skills from 091-172 Animal Care and Management 2. Covers large animal surgical nursing and anesthesia. (Prerequisites: 091-153 Medical Nursing. Completion of or concurrent enrollment in 091-152 Surgical Nursing 2)

**091-140 Animal Anatomy and Physiology - 4 Crs.** Covers terminology, function, location, identification and organization of anatomical structures as parts of body systems. Emphasizes interrelationships between structure and function using body system approach. Discusses comparative anatomy and disease. (Prerequisites: 091-106 Animal Husbandry; 091-170 Veterinary Medical Terminology; 806-105 Principles of Animal Biology)

**091-152 Surgical Nursing 2 - 3 Crs.** Focuses on the continuation of basic surgical nursing and anesthesia skills. Covers dental prophylaxis and dental radiography. Discusses basic emergency medicine concepts. (Prerequisite: 091-127 Surgical Nursing 1)

**091-153 Medical Nursing - 3 Crs.** Covers radiology, ECG, bandage application, sample collection and introduction to ultrasound and urinary catheterization. (Prerequisites: 091-140 Animal Anatomy and Physiology. Concurrent enrollment in 091-127 Surgical Nursing 1)

**091-155 Hospital Supplies and Medicants - 3 Crs.** Studies drugs and other pharmaceuticals used in veterinary medicine. Emphasizes drug usage, client education, measurement, administration, inventory and storage. (Prerequisites: 091-106 Animal Husbandry; 804-106 Introduction to College Mathematics or 804-107 College Mathematics; 806-105 Principles of Animal Biology. Completion of or concurrent enrollment in 091-140 Animal Anatomy and Physiology; 091-170 Veterinary Medical Terminology)

**091-170 Veterinary Medical Terminology - 2 Crs.** Highlights communication within the veterinary medical team as well as an introduction to veterinary technology as a career. Emphasis includes common names for species, disease process, procedures, common medical signs and abbreviations. (Prerequisite: Completion of or concurrent enrollment in 091-105 Occupational Preparation or dean consent)

**091-171 Animal Care and Management 1 - 3 Crs.** Develops handling, restraint, physical exam and basic specimen collection experience with small animal species. Includes disease and healthcare. (Prerequisites: 091-106 Animal Husbandry; 091-170 Veterinary Medical Terminology; 806-105 Principles of Animal Biology)

**091-172 Animal Care and Management 2 - 3 Crs.** Develops handling, restraint, physical exam and specimen collection experience with large animal species. Includes disease, healthcare and nutrition. (Prerequisites: 091-155 Hospital Supplies and Medicants; 091-171 Animal Care and Management 1)

**091-173 Animal Care and Management 3 - 1 Cr.** Develops handling, restraint, physical exam, and specimen collection for rabbit, rodent, and avian species. Husbandry of exotic and pocket pets will be included. (Prerequisite: 091-172 Animal Care and Management 2)

**091-175 Veterinary Nutrition - 1 Cr.** Focuses on the fundamental concepts and application of nutrition for common small and large animal species. (Prerequisite: 091-172 Animal Care and Management 2)

**101-102 Hospitality Accounting (Lakeshore Technical College Course) - 4 Crs.** Provides students with an understanding of the basic structure of accounting in the hospitality area and how to interpret and understand financial statements to learn some internal controls. Students will learn some bottom-up cost control and some budgeting. The student will recognize the differences in hotel/hospitality accounting and emphasis is placed on analysis and interpretation as well as recording, classifying, and summarizing processes. (Corequisite: Microsoft Excel or equivalent)

**101-108 Accounting for Nonaccountants - 3 Crs.** Emphasizes accounting as a tool of management. Students explore the accounting information needed by management for planning, budgeting and controlling through the use of practical examples in business and industry.

**101-112 Accounting 1 - 4 Crs.** Emphasizes accounting requirements for sole-proprietorship service and merchandising businesses in manual and computerized systems. Covers the accounting cycle, from the original business transaction to closing the books at year-end, including the preparation and interpretation of financial statements. Cash and short-term receivables are discussed in depth.

**101-114 Accounting 2 - 4 Crs.** Concentrates on accounting for merchandising operations and the importance of inventory. Accounting information systems, current and long-term receivables, as well as fixed and intangible assets are also covered throughout the course. (Prerequisite: 101-112 Accounting 1)

**101-115 Accounting 3 - 4 Crs.** Focuses on financial reporting. Students will produce a complete set of annual reports that are in compliance with GAAP accompanied by a comprehensive analysis of the financial statements. (Prerequisite: 101-114 Accounting 2)

**101-116 Intermediate Accounting 1 - 3 Crs.** Emphasizes accounting principles and standards focusing on current accounting issues. Course is geared for the accounting major for whom this intermediate study is the foundation for further specialized courses. (Prerequisite: 101-114 Accounting 2)

**101-118 Intermediate Accounting 2 - 3 Crs.** Emphasizes accounting as a management tool. Explains the accounting information needed by management for decisions in planning and as a means of control. Emphasizes accounting principles, concepts and methods for long-term assets, stockholder's equity, current and noncurrent liabilities, and other advanced accounting applications. (Prerequisite: 101-116 Intermediate Accounting 1)

**101-119 Financial Management - 3 Crs.** Surveys the various methods of financing the assets of an enterprise and of current financial practices. Explores the financial institutions and the instruments and procedures used for loans and investments to meet the demands for funds in the capital markets. Financial statement analysis, cash flow planning, working capital management, credit analysis, stocks and investing are included. (Prerequisite: 101-114 Accounting 2)

**101-123 Income Tax Accounting - 3 Crs.** Provides the basic and intermediate information needed for preparing moderately difficult income tax returns for individual taxpayers. Includes training in the rudiments and applications of the Internal Revenue Code. (Prerequisite: 101-112 Accounting 1)

**101-125 Cost Management 1 - 3 Crs.** Emphasizes the need for accurate product costing for industrial and service organizations. Special emphasis is placed on analyzing cost data to assist management in controlling costs and making decisions. Develops principles of job order and process costing. A thorough study of material, labor and indirect expenses is presented. (Prerequisite: 101-114 Accounting 2)

**101-126 Cost Management 2 - 3 Crs.** Focuses on the basic methods of accumulating and reporting cost data. Consists of the use of standard costs and variance analysis, the development of budgeting principles and preparation of production as well as cash budgets. The role cost accounting plays in planning and controlling operations is emphasized throughout the course. (Prerequisite: 101-125 Cost Management 1)

**101-128 Auditing - 3 Crs.** Covers standards and procedures used by accountants in determining the fairness of a client's financial statements. Integrates accounting standards, accounting systems, internal control structures, evidence and financial reporting. Topics of discussion include types of audit reports, importance of ethics and internal control. (Prerequisite: 101-114 Accounting 2)

**101-134 Introduction to Finance - 3 Crs.** Introduces topics in financial planning for business, including purchasing fixed assets, investing, generating funds needed and cash and debt management. (Prerequisite: 101-114 Accounting 2)

**101-141 Payroll Accounting - 3 Crs.** Provides experience in the calculation of payroll and payroll taxes and in the preparation of those records and reports that form the foundation of an efficient payroll system.

**101-145 Integrated Software Applications - 3 Crs.** This is a capstone course in the Accounting program. Students will use software to integrate a variety of technological skills and accounting concepts. Students will also be prepared for obtaining and retaining an accounting position. (Prerequisites: 101-114 Accounting 2; 101-154 Microcomputer Accounting Applications; 103-180 Microsoft Excel)

**101-154 Microcomputer Accounting Applications - 3 Crs.** Provides hands-on experience with a micro-computer-based general accounting system. Students record transactions and generate journals, ledgers, financial statements and schedules. Emphasizes conversion of a manual accounting system to a microcomputer-based system. (Prerequisite: 101-112 Accounting 1)

**101-155 Accounting for Professionals (Lakeshore Technical College Course) - 3 Crs.** Study the information that can be interpreted from financial statements. Students analyze financial statements and apply managerial accounting concepts in an accelerated format.

**101-161 Law and Ethics - 2 Crs.** Provides a general background to the elements and characteristics of business law and ethics. Emphasis is placed on how business law is structured and how it functions in our society. The main portion of the course is devoted to an understanding of contracts and contract structure and the ethics of carrying out these contracts.

**101-170 Personal Finance - 3 Crs.** Integrates and synthesizes the six major arenas of personal finance. Emphasizes planning and managing personal finances, formulating strategies for making effective purchasing decisions, understanding the role of insurance in risk management, applying effective investment strategies, and taking steps to control one's financial future.

**101-184 Business Finance and Budgeting - 3 Crs.** Analyzes the fiscal components of a business. Students evaluate financial statements, accounts and annual reports relevant to the supervisor as a nonaccountant. Students evaluate and review several ratios, trends, business cycles and budgets. Students also discuss internal controls and business ethics and their effect on the firm.

**102-101 Customer Service Essentials - 2 Crs.** Provides a solid foundation in the areas of customer service and service excellence and applies techniques to retain customers and maintain loyalty in both a face-to-face environment and in remote settings via telephone and the Internet. Students should be able to prepare the

assessments using Microsoft Word or Microsoft PowerPoint. (Prerequisite: Completion of or concurrent enrollment in 103-159 Computer Literacy - Microsoft Office)

**102-182 Business Operations - 3 Crs.** Assesses the role of business, its internal structure and its relationship to the external environment. Students analyze the supervisor's role in the functions of business planning, information systems, operations management, information technology, marketing, and how they interact and drive business activities.

**103-159 Computer Literacy - Microsoft Office - 1 Cr.** Develops basic computer skills in Windows, Internet communication, word processing with MS Word, spreadsheets with Microsoft Excel, and presentations with Microsoft PowerPoint. This course is a "hands-on" computer class and cultivates skills for college and work. Students must be comfortable using a Windows-based computer. Students not familiar with a computer should enroll in Microsoft Windows. Keyboarding skills recommended.

**103-160 Microsoft Word - 2 Crs.** Introduces word processing applications, functions and features. Emphasizes creating, editing, saving and retrieving files; using wizards and templates; creating organized tables; and using grammar, formatting and spelling tools. Produces documents with charts generated from tables. Integrates information with other Microsoft applications. Windows-based Microsoft Word software is used. May be taken alone, as part of the Office Software Suite Certificate or to prepare for certification exams. It is recommended (but not required) that entry-level students complete Computer Literacy - Microsoft Office before enrolling in this course.

**103-164 Advanced Microsoft Integration - 2 Crs.** Provides hands-on experience integrating files from programs in the Microsoft Office Software Suite. Students use advanced features in Word, Access, Excel and PowerPoint to link formulas, information and data. Students create documents, databases, worksheets and presentations and integrate the applications in a professional compilation. This course is typically taken as a final step in completing the Advanced Office Suite Certificate. (Prerequisites: 103-183 Advanced Microsoft PowerPoint; 103-188 Advanced Microsoft Access; 103-190 Advanced Microsoft Excel; 106-159 Advanced Microsoft Word)

**103-165 Exploring the Internet With Client Software - 1 Cr.** Provides an overview of the Internet and connectivity issues. Develops practical skills in accessing and using basic Internet tools such as browsers, e-mail clients, search tools and basic Internet utilities. Designed for the novice Internet user.

**103-168 Microsoft Office Publisher - 2 Crs.** Prepares students to design newsletters, brochures, flyers, stationery and more. Applies basics of design for layout and typography to publications. Applies Microsoft Publisher software package. Online students will need Microsoft Publisher 2007 to complete coursework.

**103-170 Beginning Photoshop - 2 Crs.** Introduces basic electronic pixel-based image manipulation. The course uses software tutorial exercises that require Adobe Photoshop CS3 software. The course builds on the student's required skills of using a computer and its operating system to manage files and search the Internet. Internet access is required if working from home.

**103-172 QuarkXPress - 2 Crs.** Introduces techniques and procedures for creating publications using QuarkXPress. Uses software tutorial exercises with user interface, typographic controls, integrating images, working with color, preparing files for process color reproduction. It is recommended students have a working knowledge of computer operating systems, use of a mouse, accessing menus and commands, and file management.

**103-174 InDesign - 2 Crs.** Introduces basic page layout document construction techniques. This course uses software tutorial exercises to focus on learning InDesign's user interface and document creation procedures. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**103-180 Microsoft Excel - 2 Crs.** Introduces spreadsheet applications, functions and features using data tables, solver and document review. Emphasizes creating, editing, saving and retrieving files, applying formulas and managing large workbooks, charts and amortization schedules. May be taken alone, as part of the Office Software Suite Certificate, or as the first step in preparation for the Microsoft Certification test. Students should have a basic understanding of a computer system. For entry-level students, Microsoft Windows or Computer Literacy - Microsoft Office is recommended before starting this course.

**103-181 Microsoft Access - 2 Crs.** Develops skills to manage relational databases by completing various activities using Microsoft Access in a hands-on format. Builds skills essential to unlocking the potential of a fully functional RDBMS (relational database management system). Access is a database program which keeps track of large amounts of data and organizes it in a useful manner. It provides a cost-effective method of leveraging key database functionality with easy-to-use graphical interface. Students must have a working knowledge of a computer system. Windows and Excel courses (or a working knowledge of both) are recommended before completing this course.

**103-182 Microsoft PowerPoint - 2 Crs.** Introduces Microsoft PowerPoint, Windows-based software that facilitates the design and creation of presentations in the form of text, clip art, animation, organizational charts and tables. Students produce interactive presentations with sound and other enhancements. May be taken alone, as part of the Office Software Suite Certificate or as the first step in preparation for the Microsoft Certification test on PowerPoint. Students should have a basic understanding of a computer system. For entry-level students, Microsoft Windows or Computer Literacy - Microsoft Office is recommended before starting this course.

**103-183 Advanced Microsoft PowerPoint - 2 Crs.** Develop skill in professional presentation and public speaking. Students organize a speaking event, apply customized features to slide shows, create custom designs, generate Web-based presentations, link and embed files from a variety of sources, prepare handouts and workbooks to complement presentations and utilize professional presentation technique. (Prerequisite: 103-182 Microsoft PowerPoint or dean consent)

# COURSE DESCRIPTIONS (CONT.)

## **103-188 Advanced Microsoft Access - 2 Crs.**

Introduces students to advanced features of Microsoft Access. Includes creating advanced queries; customizing advanced forms and reports; creating macros, Pivot Tables and Pivot Charts; integrating Access with other applications; introduction to database administration, database security, SQL statements, and VBA code. This course may be taken alone or as part of the Advanced Office Software Suite Certificate. (Prerequisite: 103-181 Microsoft Access or dean consent)

**103-189 Microsoft Windows - 1 Cr.** Provides basic overview of Windows. Focuses on concepts and terminology. Students develop skills in using a mouse, working with icons, using Windows Explorer, file/folder manipulation and print controls. May be taken alone, as part of the Office Software Suite Certificate, or as a step in preparation for Microsoft Certification. Students should have basic knowledge of a computer system. Support services and/or tutoring are available and recommended for very entry-level students.

**103-190 Advanced Microsoft Excel - 2 Crs.** Explores intermediate and advanced features of Microsoft Excel including multiple worksheet and workbook applications; importing data; using database features; creating macros and Pivot Tables; and Nesting functions. Provides hands-on experience in using Excel, building and designing advanced worksheet solutions. This course may be taken alone or as part of the Advanced Office Software Suite Certificate. (Prerequisite: 103-180 Microsoft Excel or dean consent)

**103-193 Dreamweaver/Flash - 3 Crs.** Design/develop a standards-compliant Web site with Adobe Dreamweaver software and publish to Web host. Design/develop a basic animation with Adobe Flash software for integration into a Web site. Experience with HTML and CSS is recommended.

**103-195 Microsoft Project - 2 Crs.** Participants control simple or complex projects by scheduling and tracking activities on the computer. Communicate schedule information, delegate tasks, get status updates and report project details so others can be informed. Keep track of project budget and all costs involved. Record project information with Microsoft Project software. Trial version of Microsoft Project 2007 software is available for downloading at the Microsoft Web site. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**104-102 Marketing Principles - 4 Crs.** Provides an integrated overview of the marketing concept and functions. Major topics include the marketing environment, distribution, pricing, product planning, promotion, market analysis and segmentation, marketing opportunities, and consumer and business-to-business buying behavior.

**104-103 International Business Practice Firm - 3 Crs.** Provides students with an international experience. Students engage in simulated business transactions with other firms here and abroad via a closed network. Students use state-of-the-art technology, communicate with students from other cultures and apply problem-solving strategies in a team environment. (Prerequisite: 104-102 Marketing Principles)

**104-104 Market Research - 3 Crs.** Provides an overview and practical application of trends, technology and methodology found in contemporary marketing research practice. In conjunction with market research, students use the latest in marketing software technology and presentation performance skills to effectively

communicate market research. In the Marketing—Business-to-Business program, this course is taken in conjunction with 104-175 Marketing Presentations.

**104-105 Selling - 3 Crs.** Applies fundamental selling principles and allows practice in the basic skills needed to succeed in a sales career. Explores the sales process and demonstrates ability to approach, secure desire, handle resistance and close the sale. Examines buyer behavior, communication styles, ethics, international selling, partnership and value-added selling.

**104-107 Merchandising Management - 3 Crs.** Emphasizes strategic merchandise management. Students complete a situation analysis, select a target market, gather information, choose a store location, manage a retail business, manage merchandise, correct pricing and communicate with the customer. Includes development of buying, human resources management and retail operation skills.

**104-109 Customer Service Techniques (Lakeshore Technical College Course) - 2 Crs.** Assess participants' skills in customer relations, judgment and business development and provides training in connecting with customers, healing customer relationships, and dealing with customer needs.

**104-110 Global Marketing - 3 Crs.** Focuses on global issues that challenge today's international marketer. Expands on the strategic implications of marketing in different country cultures, as well as identifies marketing management techniques necessary to accommodate cultural differences. (Prerequisite: Completion of or concurrent enrollment in 104-102 Marketing Principles)

**104-111 International Marketing - 3 Crs.** Focuses on global issues that challenge today's international marketer. Expands on the strategic implications of marketing in different country cultures, as well as identifies marketing management techniques necessary to accommodate cultural differences.

**104-111 Customer Interaction Skills (Lakeshore Technical College Course) - 2 Crs.** Prepares the student for effective communication. Content includes writing memos, reports, drafting e-mail messages, developing effective speaking skills, resolving customer disputes, and promoting excellent customer relations.

**104-113 Marketing Management Analysis - 3 Crs.** Provides practice in marketing decision-making skills including defining marketing goals, analyzing information, predicting the results of actions and making decisions. Students will analyze various marketing and business strategy issues using case studies, readings and marketing simulation software. Strategic marketing mix issues will be emphasized. It is recommended students have completed three semesters in the Marketing program or dean consent. (Prerequisite: 104-102 Marketing Principles)

**104-116 Database Marketing - 3 Crs.** Explores the necessity of gathering and compiling data as a tool for competitive marketing. Focuses on the history and necessity of database marketing today. Students develop a database in Microsoft Excel and Microsoft Access for a marketing strategy and learn to measure, track and report data as it relates to that marketing strategy. Students should have beginner Microsoft Excel and Microsoft Access knowledge and skills.

**104-117 Electronic Marketing Media - 3 Crs.** Focuses on electronic media as a tool toward effective marketing. Desktop publishing, Web authoring and desktop video software are used to create a variety of electronic media. Students with a background in graphics may take course with dean approval. Marketing students are encouraged to take 104-125 Advertising concurrently with this course.

**104-118 e-Business Marketing Strategies - 3 Crs.** Introduces promotions and distribution of goods and services via the Internet. Focuses on differences between traditional marketing and e-commerce.

**104-119 Promotion - 3 Crs.** Provides an integrated overview of marketing promotional tools and concepts for today's business environment. Students examine the marketing environment, tools of promotion, advertising tools, Integrated Marketing Communications (IMC), evaluation and measurement. Through practical and theoretical approaches, students prepare an IMC plan for a business including appropriate promotional strategies, tactics and cost estimates.

**104-123 Supply Management - 3 Crs.** Emphasizes purchasing and its importance and relationship to other functions within the corporate structure. Addresses purchasing policies, techniques and buying expertise as they apply to marketing careers in either business, purchasing or materials management.

**104-125 Advertising - 3 Crs.** Focuses on creating and implementing advertising plans. Through a variety of assignments, participants are given the opportunity to create ad layouts, use desktop publishing, design an advertising campaign and create a video or audio advertisement. Through practical and theoretical approaches, students prepare and present an advertising campaign for a specific business or organization. Students with a background in graphics may take with dean approval. Marketing students are encouraged to take 104-117 Electronic Marketing Media concurrently with this course.

**104-156 Marketing—Business-to-Business - 3 Crs.** Explores the unique marketing genre of business-to-business marketing. Emphasis will be placed on the global marketplace, relationship management, cross-functional decision-making processes, supply chain management and product quality. Using actual business case studies, students will assess business marketing opportunities and generate marketing strategies and evaluation techniques for a variety of business marketing scenarios.

**104-160 Marketing Basics - 1 Cr.** Provides an introduction to marketing concepts and functions. Focuses on the marketing principles of product, price, place (distribution) and promotion and how these principles impact every company or organization. You must have access to the Internet at home or on campus and access to an e-mail account.

**104-170 Marketing Tourism and Hospitality (Lakeshore Technical College Course) - 3 Crs.** Introduces the student to various aspects of tourism, the development and classification of hotel businesses, the hotel and rooms division operation, the duties and responsibilities of the key food and beverage executives, the history and development of the restaurant business, noncommercial food service segments, beverage management and liquor liability, recreation and leisure, the history of gaming entertainment, and the different types of meetings, conventions, and expositions. (Corequisite: Microsoft PowerPoint or equivalent)

**104-175 Marketing Presentations - 3 Crs.** Provides the opportunity for students to develop the skills, processes and practical experience needed to plan, construct and deliver effective business presentations. In conjunction with Market Research, this course provides an overview and practical application for marketing presentations utilizing software found in contemporary market research practice. In the Marketing—Business-to-Business program this course is to be taken in conjunction with 104-104 Market Research.

**104-180 Business-to-Business Careers - 3 Crs.** Provides opportunities to explore potential job markets, develop career-building strategies, practice interviewing skills, write an effective résumé and develop a cover letter. Students utilize skills learned in school and on the job by creating a business and writing a business plan (large group project). As a capstone course for the Marketing—Business-to-Business program, students take a leadership role in developing assignments for the business plan. This course should be taken at the end of the program.

**105-120 Business Organization - 3 Crs.** Introduces the student to the world of business. Examines the areas of business such as human resources, operations management, financial management and marketing. Gives the students an overview of the types of business ventures available and the advantages and disadvantages of each.

**105-124 Portfolio Introduction (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to develop a personal and professional portfolio, to identify self-awareness through various self assessments and apply these results to the workplace and other environments, to write goal statements and understand their value, to develop an individual history of events and achievements, and to identify significant learning experiences throughout the student's life.

**105-126 Career Assessment (Lakeshore Technical College Course) - 3 Crs.** Prepares the student to develop a career plan, write a résumé, create a cover letter, prepare for an interview, search for work on the Internet, adapt a résumé for an electronic scan, and post a résumé and cover letter on the Internet. (Prerequisite: 10105124 Portfolio Introduction)

**105-127 Portfolio Assessment (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to identify what they have learned throughout the program, write career goals, re-examine their resume, research and collect project samples of their achievements, and analyze their achievements within the college core abilities and program outcomes. (Prerequisites: 10105124 Portfolio Assessment; 10105126 Career Assessment)

**105-154 Career Internship, Business and Culinary Arts (90 Hours) - 2 Crs.** Provides an opportunity to apply concepts, principles and skills learned in the workplace. Emphasis is placed on applying skills to job tasks, writing a cover letter and résumé, preparing for an interview and using professional etiquette.

**105-155 Career Internship, Business and Culinary Arts (162 Hours) - 3 Crs.** Provides an opportunity to apply concepts, principles and skills learned in the workplace. Emphasis is placed on applying skills to job tasks, writing a cover letter and résumé, preparing for an interview and using professional etiquette.

**105-156 Career Internship-Business - 4 Crs.** Provides an opportunity to apply concepts, principles, and skills learned in the workplace. Emphasizes applying skills to job tasks, writing a cover letter and résumé, preparing for an interview, and using professional etiquette.

**105-160 Business Law - 3 Crs.** Provides a general background to the elements and characteristics of business law. Emphasis is placed on how business law is structured and how it functions in our society. The main portion of the course is devoted to an understanding of contracts and contract structure.

**106-103 Keyboarding - 1 Cr.** Introduces students to the touch operation of keyboard characters through the use of computer software. Focuses on the development of speed and accuracy at the keyboard to a minimum speed of 20 words a minute. Document creation is not included.

**106-104 Realtime Reporting I (Lakeshore Technical College Course) - 5 Crs.** Prepares the student to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting I Lab is required. (Condition: 101071 Broadcast Captioning or 101061 Judicial Reporting or 321071 Broadcast Captioning or 321061 Judicial Reporting)

**106-105 Realtime Reporting II (Lakeshore Technical College Course) - 5 Crs.** Prepares the student to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Zrule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory at a minimum speed of 110 wpm. Concurrent registration in Realtime Reporting II Lab is required. (Prerequisite: 10106104 Realtime Reporting I; 10106804 Realtime Reporting I Lab)

**106-108 Realtime Reporting Speed Development (Lakeshore Technical College Course) - 2 Cr.** Further develops skills acquired in Realtime Reporting II on literary, jury charge, and testimony material beginning at 120 wpm. Scheduled during the summer term, students must pass two, 3-minute timings at a minimum speed of 110 words per minute. (Prerequisite: 10106105 Realtime Reporting II)

**106-109 Literary I (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to write literary material at 150 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. Concurrent registration in Literary I Lab is required. (Prerequisite: 10106108 Realtime Reporting Speed Development)

**106-111 Literary II (Lakeshore Technical College Course) - 2 Crs.** Expands the student's ability to write literary material at 180 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy, write and read back current events dictation, and prepare salable transcripts. Concurrent registration in Literary II Lab is required. (Prerequisite: 10106109 Literary I)

**106-111 Business Communications - 3 Crs.** Analyze business situations, determine the specific communication strategies required, the audience, and the purpose as you prepare the most effective business communication format to address the situation. Applies concepts to team

collaboration, various types of business correspondence, report writing and business presentations. Proofreading skills, word processing skills and keyboarding skills are strongly recommended. Online students are required to create an audio recording and should have access to a computer microphone or other audio recording device with the ability to submit the recording to the instructor. (Prerequisite: 801-195 Written Communication)

**106-112 Information Storage and Retrieval - 2 Crs.** Prepares students to inspect, index, code, sort, store and retrieve business information according to ARMA indexing rules using alphabetic and numeric storage and retrieval systems. Students apply the principles and practices of effective information control through practical simulated experience.

**106-113 Business Publications - 3 Crs.** Prepares students to design newsletters, brochures, flyers, forms and more for business publication. Applies basics of design for layout and typography to publications. Applies Microsoft Publisher and Adobe Acrobat software packages. Explores options for both print and digital distribution. Online students will need Microsoft Publisher 2007, Adobe Acrobat Professional 8, and Microsoft Office to complete coursework.

**106-117 Fundamentals of Interpretation and Translation - 2 Crs.** Provides an introduction to the study of interpretation and translation. Explores the basic theoretical concepts and teaches to apply this knowledge. Focuses on the processes for understanding, analyzing, interpreting and translating different kinds of written content from a source language into a target language.

**106-120 Document Processing - 1 Cr.** Introduces basic formatting of business letters, one- and two-page reports, tables and memorandums using Windows word processing software. Skill building is provided to enable students to develop an ending speed beyond 38 words a minute requirement. (Prerequisite: Demonstrated 30 words a minute for 3 minutes with 3 or fewer errors using correct fingering. Enroll in Keyboarding Pretest to determine placement)

**106-120 Business Etiquette and Professionalism (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to feel confident in the business setting and to understand business protocol in a culturally diverse, international market. Areas of study will include proper etiquette, introductions, professional body language, cultural sensitivity, dining and social skills, and conflict management.

**106-121 Advanced Document Processing - 1 Cr.** Develops job-ready production skills while preparing business documents such as correspondence, tables, forms and reports from unarranged and rough draft copy. Includes hands-on, office-oriented applications. Skill building is provided to enable students to develop an ending speed beyond 45 words a minute requirement. (Prerequisite: Completion of or concurrent enrollment in 106-120 Document Processing)

**106-122 Customer Service Applications - 2 Crs.** Apply techniques to gain loyalty and retain customers. Emphasizes assessing customer needs, developing customer relations skills and implementing a customer service improvement plan to meet customer needs. (Prerequisite: Completion of or concurrent enrollment in 103-159 Computer Literacy - Microsoft Office)



# COURSE DESCRIPTIONS (CONT.)

**106-123 Editing Applications - 1 Cr.** Prepares students to edit documents generated from voice-recorded material and text files applying proofing techniques to produce mailable copy. Mailable copy includes accuracy in English usage, punctuation, number usage, spelling and formatting documents. Keyboarding skills in word processing are applied. (Prerequisite: 106-139 Business Proofreading Skills)

**106-124 Keyboarding, Speed and Accuracy Improvement - 1 Cr.** Provides speed and accuracy drill for students entering at various speeds. Through diagnostic tests, goals are determined for practice relevant to the needs of the student. Grading is based on individual improvement. To get the best results, students should plan on class time of one hour a day, four days a week. (Prerequisite: 106-120 Document Processing or demonstrated 25 wpm for 5 minutes with 3 or fewer errors)

**106-127 Office Software for Multilingual - 3 Crs.** Utilize Microsoft Word, Excel, PowerPoint and Access in multiple languages. Convert target language to English and learn language specific computer commands. Create, edit, and proof a variety of documents in multiple languages. Modify user interface for use with other languages. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**106-128 Technology and Services for Translation - 2 Crs.** Provides an introduction to various technologies relating to translation. Students will apply online tools and services, software, social networking, voice recognition technology, hardware (such as fax and storage media) and communication technologies.

**106-128 Jury Charge I (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to write jury charge material at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Jury Charge I Lab is required. (Prerequisite: 10106108 Realtime Reporting Speed Development)

**106-129 Multilingual Business Essentials - 3 Crs.** Develop strategies for verbal and nonverbal communication relating to customer service. Identify cultural differences in business relationships. Develop procedures and business documents for a bilingual office environment. (Prerequisite: 106-127 Office Software for Multilingual)

**106-129 Jury Charge II (Lakeshore Technical College Course) - 2 Crs.** Expands the student's ability to write jury charge material dictated at a minimum speed of 200 words per minute for 5 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy and prepare salable transcripts. Concurrent registration in Jury Charge II Lab is required. (Prerequisite: 10106128 Jury Charge I)

**106-134 Communication Technologies - 3 Crs.** Focuses on skills to manage business and personal information using contact lists, e-mail and e-calendar functions. Students transfer information to a personal digital assistant, capture digital video and still images for business presentations and documents, establish videoconferencing to collaborate on documents, scan images and text into documents, scan paper forms for electronic fill-in, and apply recognition technologies. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**106-138 Computer Essentials - 2 Crs.** Emphasizes the impact of computers, both personally and in business. Examines the fundamentals of computers, with respect to computer hardware, software, and the Web. Students use the computer to access the Internet and create documents. THIS IS A CONCEPTS COURSE; STUDENTS DO NOT LEARN HOW TO USE MICROSOFT OFFICE SUITE.

**106-139 Business Proofreading Skills - 2 Crs.** Improves proofreading skills through a review of common business errors in punctuation, number usage, grammar, capitalization, word choice and spelling. Computer-editing tools and reference resources are used to produce error-free copy. Basic word processing skills are recommended.

**106-142 Business Meeting and Event Planning - 3 Crs.** Focuses on coordinating business meetings and planning successful business events. Students develop skills in meeting logistics including: scheduling, preparing, organizing, managing and participating in business meetings. Students engage in all aspects of the event management process including goal setting and objectives, establishing event themes, planning event logistics, financial management, promotion and event evaluation. (Prerequisites: 106-113 Business Publications; 106-134 Communication Technologies; 106-164 Business Applications for Microsoft Office; 106-165 Business Office Essentials)

**106-142 Judicial Reporting Procedures (Lakeshore Technical College Course) - 2 Crs.** Introduces the student to reporting procedures for which reporters are responsible in the courtroom, deposition, and real-time reporting environments, including preparing salable transcripts, researching legal citations, and developing professional development plans.

**106-143 Judicial Reporting Internship (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to write machine shorthand verbatim for a minimum of 40 hours of actual writing time in the courtroom, classroom, and deposition environment under the supervision of a working reporter; prepare a 40-page transcript, and summarize the internship experience in a narrative report. (Prerequisites: 10106108 Realtime Reporting Speed Development. Corequisites: 10106128 Jury Charge I; 10106109 Literary I; 10106156 Testimony I)

**106-144 Realtime Reporting Orientation (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to use computer-assisted, real-time transcription software, Windows, e-mail, a steno machine, and a laptop in writing machine shorthand in court reporting and to complete and submit required coursework.

**106-151 Specialized Insurance Claims - 2 Crs.** Emphasizes insurance preparation of claims to government carriers in Medicare, Medicaid and Workers' Compensation. Applies ICD, CPT and HCPC coding resources to complete CMS 1500 and UB92 insurance claims. (Prerequisite: 509-307 Medical Office Insurance and Finance)

**106-152 Electronic Patient Billing - 2 Crs.** Emphasizes the use of Medisoft billing software. Includes preparing patient databases, making entries to accounts, preparing billing statements and insurance forms; differentiates between the manual and static coding process. Students perform static coding with ICD and CPT coding manuals and complete financial statements. Emphasizes collection practices for overdue accounts and establishes a format

for collection policies in a medical office. (Prerequisite: Completion of or concurrent enrollment in 509-307 Medical Office Insurance and Finance)

**106-154 Medical Office Applications - 3 Crs.** Simulates handling patients in a medical/clinical setting. Hands-on experience in scheduling appointments, handling patient charts, transcribing progress notes, reading a fees chart and billing, coding from SOAP formats, preparing insurance forms, and establishing confidentiality standards for charts and faxed records. Utilizes Word, Medisoft billing software, Internet, fax and e-mail. (Prerequisite: 509-301 Medical Assistant Administrative Procedures)

**106-156 Testimony I (Lakeshore Technical College Course) - 3 Crs.** Prepares the student to write 2-voice testimony at 160 words per minute for 3 minutes and transcribe with a minimum of 95 percent accuracy. Concurrent registration in Testimony I Lab is required. (Prerequisite: 10106108 Realtime Reporting Speed Development)

**106-157 Testimony II (Lakeshore Technical College Course) - 3 Crs.** Expands the student's ability to write 2-voice testimony at 225 words per minute and transcribe with 95 percent accuracy a minimum of three 5-minute, 2-voice timings at 225 words per minute; complete a mock RPR exam. Concurrent registration in Testimony II lab is required. (Prerequisite: 10106156 Testimony I)

**106-158 Realtime Reporting Technology (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to use CAT (Computer-Assisted Transcription) and real-time software; build personal dictionaries; and read, translate, and edit transcripts. Students are introduced to real-time translation procedures in court, depositions, captioning, and educational environments.

**106-159 Legal Terminology (Lakeshore Technical College Course) - 1 Cr.** Provides the student with the ability to spell, pronounce, and define legal terms.

**106-159 Advanced Microsoft Word - 2 Crs.** Applies word processing features including tables, columns, merges, templates and integration of graphic elements. Emphasizes production of correspondence, reports and proposals, labels, forms and tables. Microsoft Word 2007 software is used. Recommend students have keyboarding skills and knowledge of Microsoft Word.

**106-160 Medical Office Practicum - 2 Crs.** Provides students with on-the-job medical office experience in a medical facility. Application of ethical standards in confidentiality is required. Expands student's knowledge of the requirements (both employment skills and adaptive skills) necessary for employment in the medical profession. Students must be eligible for graduation the semester they enroll in the externship. (Prerequisites: Completion of or concurrent enrollment in 106-154 Medical Office Applications. CPR and First Aid for Health Professionals, proof of immunizations, and caregiver background check must be completed prior to Medical Office Practicum)

**106-161 Realtime Reporting Technology Advanced (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to expand their knowledge of computer-assisted transcription and realtime software, dictionary management, specialized editing functions, transcript preparation, auto-included block files, and specialized macros for Steno-related tasks.

**106-163 Database and Spreadsheet Essentials - 2 Crs.** Prepares students to design their own databases and spreadsheets from the ground up. Develops skills in creating formulas and functions to solve business problems. Develops skills in database tables, relationships and queries. Develops formatting skills for spreadsheets and charts. Online students need Microsoft Excel 2007 and Microsoft Access 2007 software.

**106-164 Business Applications for Microsoft Office - 3 Crs.** Apply various Microsoft Office business applications using numerous features in Excel, Microsoft Access, and PowerPoint. Applications include integration concepts such as importing/exporting, linking/embedding, multimedia concepts, templates and macros. Online students will need Microsoft Excel 2007, Access 2007 and PowerPoint 2007. (Prerequisites: 103-159 Computer Literacy - Microsoft Office; 106-163 Database and Spreadsheet Essentials)

**106-165 Business Office Essentials - 3 Crs.** Prepares students to process information from inception through distribution. Student applies time management and organizational skills to projects. Projects include financial records; digital imaging; purchase, lease and inventory decisions; office procedures; documenting process flows; presenting justification of decisions; and training. (Prerequisites: 106-159 Advanced Microsoft Word; 106-163 Database and Spreadsheet Essentials)

**106-167 Legal Processes and Systems - 3 Crs.** Explores the history, components and processes of today's laws and court systems. Specific areas of the law that are addressed include civil and criminal litigation, family law, real estate, small claims, estate planning and administration. Students view actual court sessions.

**106-169 Law Office Applications - 3 Crs.** Emphasizes the application of skills required in the law office. Develops skill in legal billing, specialized legal software, banking and filing procedures, tax matters, processing insurance and investments. Students prepare a legal portfolio.

**106-171 Medical Reporting and Terminology (Lakeshore Technical College Course) - 2 Crs.** Prepares the student to write medical terminology in machine shorthand using appropriate medical terminology from material dictated at a minimum speed of 150 wpm for 5 minutes with a minimum of 95 percent accuracy. The student will research medical information, prepare salable transcripts, and submit timings. (Prerequisite: 10106156 Testimony I)

**106-175 Legal Documents Production 1 - 2 Crs.** Focuses on the preparation of litigation documents for court filing in civil, criminal and small claims cases. Students apply legal concepts to actual court and non-court documents, utilize legal terminology in document preparation and transcribe legal dictation in court and non-court format. (Prerequisite: 106-120 Document Processing or Keyboarding Pretest - 30 wpm with 3 or fewer errors)

**106-176 Legal Documents Production 2 - 2 Crs.** Focuses on the preparation of legal documents for real estate, contracts, family law, estate planning and administration (probate and nonprobate), corporate law, bankruptcy and foreclosures. Emphasis is on speed and accuracy in applying legal terminology in document preparation. (Prerequisite: 106-175 Legal Documents Production 1)

**106-178 Legal Office Professional - 3 Crs.** Introduces the student to the role of the legal professional. Develops professionalism, receptionist and client conferencing skills, telephone techniques in a legal setting, law office ethics, confidentiality, and legal office accounting skills.

**106-180 Business Protocol - 3 Crs.** Provides opportunities to apply business etiquette to your professional life. Enhances your professional image through appearance, work habits, manners and communications. Explores handling of ethical dilemmas and workplace relationships. Recognizes the diversity of other cultures in business relationships. Provides opportunity to plan for your career success and job search. Recommended to be taken near the end of your program, in one of the last semesters.

**106-184 English for Realtime Reporters (Lakeshore Technical College Course) - 1 Cr.** Enhances the student's ability to use proper English grammar, spelling, punctuation, capitalization, and vocabulary techniques in the transcription of the spoken word.

**106-804 Realtime Reporting I Lab (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to use machine shorthand to write consonants, vowels, numbers, multi-syllabic words, multi-consonant words, punctuation and special symbols, short forms and phrases, words in their singular and plural forms, and prefixes and suffixes. Concurrent registration in Realtime Reporting I is required. (Corequisite: 10106104 Real Time Reporting I Condition: 101701 Broadcast Captioning or 101061 Judicial Reporting or 321701 Broadcast Captioning or 321061 Judicial Reporting)

**106-805 Realtime Reporting II Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write multi-syllabic words; punctuation and special symbols, short forms and phrases, prefixes and suffixes; numbers, frequently used words and phrases, contractions using the Zrule, the "Flagged Alphabet," apply realtime conflict elimination principles, apply realtime theory and write dictation using a realtime theory. Concurrent registration in Realtime Reporting II is required. (Corequisite: 10106105 Realtime Reporting II)

**106-809 Literary I Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write literary material dictated at a speed of 150 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy. (Corequisite: 10106109 Literary I)

**106-811 Literary II Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write literary material at 180 words per minute for 5 minutes and transcribe at least three timings with 95 percent accuracy. Concurrent registration in Literary II is required. (Corequisite: 10106111 Literary II)

**106-828 Jury Charge I Lab (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to write jury charge material dictated at a speed of 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy. (Corequisite: 10106128 Jury Charge I)

**106-829 Jury Charge II Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write jury charge material at 200 words per minute for 5 minutes and transcribe at least three timings with 95 percent accuracy. Concurrent registration in Jury Charge II is required. (Corequisite: 10106129 Jury Charge II)

**106-857 Testimony II Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write 2-voice testimony at 225 words per minute and transcribe with 95 percent accuracy a minimum of three, 5-minute, 2-voice timings at 225 words per minute; complete a mock RPR Exam. Concurrent registration in Testimony II is required. (Corequisite: 10106157 Testimony I)

**106-859 Testimony I Lab (Lakeshore Technical College Course) - 1 Cr.** Expands the student's ability to write 2-voice testimony at 160 words per minute for 3 minutes and transcribe at least 3 timings with a minimum of 95 percent accuracy. (Corequisite: 10106156 Testimony I)

**109-101 Issues in Hotel/Hospitality Management (Lakeshore Technical College Course) - 1 Cr.** Introduces special topics pertinent to the hotel and hospitality industry. International, national, and local issues are discussed. (Prerequisite: 10109121 Introduction to Hotel/Hospitality)

**109-110 Front Office Procedures and Management (Lakeshore Technical College Course) - 3 Crs.** Emphasizes front office techniques and management principles for the organization and operation of the lodging facility. The human and public relations responsibilities of the front office as well as routine procedures are an integral part of the course.

**109-111 Housekeeping Management (Lakeshore Technical College Course) - 2 Crs.** Investigates the functions of the housekeeping department and the role of its managers in operating the department and introduces students to requirements for guest satisfaction with room and facility appeal, order, and cleanliness.

**109-112 Sanitation for Food Service (Lakeshore Technical College Course) - 1 Cr.** Develops skills to follow sanitation and hygiene provisions in state codes. The NRA certification test is included.

**109-113 Food and Beverage Operations (Lakeshore Technical College Course) - 2 Crs.** Introduces and applies principles of menu planning, food preparation, laws and sale of alcoholic beverages. Emphasis is on operation of a professional food and beverage facility.

**109-115 Hospitality Law (Lakeshore Technical College Course) - 3 Crs.** Applies the skills and tools necessary for a hospitality manager to function in today's legal work environment. Students will demonstrate the application of legal practices in hospitality environments, analyze of the impact U.S. employment laws, the impact of global economy, vendor/supplier contract negotiations, reacting to legal charges, documenting the hiring/firing process, dealing with harassment issues, privacy issues, and summarizing legal issues facing hospitality/culinary employees.

**109-120 Facilities Operations and Security (Lakeshore Technical College Course) - 2 Crs.** Explores the technical information necessary to establish effective facilities operations. An effective energy management program is discussed. Common mechanical problems and the procedures to correct them are emphasized. Security management to protect guests is emphasized. (Prerequisite: 10109121 Introduction to Hotel/Hospitality)

# COURSE DESCRIPTIONS (CONT.)

**109-121 Introduction to Hotel/Hospitality Management (Lakeshore Technical College Course) - 3 Crs.** Traces the development of the hotel/motel industry from early inns to modern high-rise and commercial hotels and highway motels. The organization of the hotel, including food and beverage operations, is discussed. (Corequisite: Microsoft Word or equivalent)

**109-122 Field Study/Experience (Lakeshore Technical College Course) - 1 Cr.** Allows students to examine and apply advanced concepts in hotel and hospitality management. Requires instructor approval to enroll.

**109-144 Hospitality Internship (Lakeshore Technical College Course) - 4 Crs.** Affords students on-the-job experience while providing instructor and workplace supervision. Students are responsible for seeking and obtaining the internship position with instructor approval. Course requirements include maintaining a log of work activities, identifying and receiving approval from the job supervisor and instructor, and completing a work-related project. Students meet periodically at LTC. (Condition: Verification of eligibility by the Instructor)

**110-101 Introduction to Paralegalism and Legal Ethics (Lakeshore Technical College Course) - 3 Crs.** Introduces the student to the paralegal profession, including civil, criminal, and administrative procedure; state and federal judicial systems; legal research; case briefing; ethical rules that regulate paralegals; law office systems and administration; and substantive civil law. (Corequisite: Microsoft Word skills equivalent)

**110-102 Civil Litigation I (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to evaluate causes of action and defenses; conduct an initial client interview; perform an initial investigation; draft a summons and complaint, answer, counterclaim, cross complaint, motions and supporting documents, select appropriate discovery devices; draft interrogatories and responses; prepare for depositions; draft a Notice of deposition and Subpoenas; analyze fact patterns; and evaluate evidentiary objections. (Corequisite: 10110101 Intro to Paralegalism)

**110-103 Civil Litigation II (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skill to evaluate and summarize depositions; evaluate evidentiary challenges; prepare a witness list; draft settlement documents; locate expert witnesses; prepare witnesses; prepare for presentation of evidence at trial; prepare a trial notebook; draft a Bill of Costs; prepare post trial motions; evaluate and research appellate issues. (Prerequisite: 10110102 Civil Litigation)

**110-104 Legal Research (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to differentiate between primary or secondary authority, locate statutes and constitutional provisions, locate case law, locate administrative regulations, locate secondary authority, use correct citation form, verify and update legal authority, formulate legal issues, use effective research strategies, evaluate solutions to legal problems, and use computer assisted and internet legal research strategies. Some classes will be held off campus in a law library. (Corequisite: 10110101 Introduction to Paralegalism)

**110-105 Legal Writing (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to draft legal correspondence, operative legal documents, case briefs, and legal and office memoranda; analyze and synthesize legal authority; use correct citation form; draft

a civil pleading, affidavit, trial brief, and appellate brief; and apply rules of civil procedure. (Prerequisite: 10110103 Legal Research)

**110-106 Family Law (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to conduct an initial client interview for a family law matter, including divorce and domestic violence; draft initial pleadings for divorce, financial family law documents, divorce discovery documents, and concluding documents in divorces; assess the need for post-divorce modification and enforcement; and outline factors involving child custody and support. (Corequisite: 10110101 Introduction to Paralegalism)

**110-107 Legal Aspect of Business Organizations (Lakeshore Technical College Course) - 3 Crs.** Provides students with the skills to analyze legal aspects of the formation, operation, and dissolution of sole proprietorships, partnerships, limited liability entities, and corporations; draft documents related to various business entities such as Certificates of Limited Partnership; Articles of Organization and Incorporation, Name Reservation Applications, Organizational Resolutions, Form SS-4 and 2553, Stock Certificates, Resolutions and Minutes, and Amendments and Articles of Dissolution. (Prerequisite: 10110101 Introduction to Paralegalism)

**110-114 Administration of Estates (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to assist attorneys to administer estates, differentiate between probate and nonprobate property, contrast various forms of marital property, gather appropriate factual and financial information, select and draft appropriate forms to open an estate, prepare an inventory, draft a final accounting and documents to close an estate, draft tax documents, prepare powers of attorney and simple wills, and assist in the valid execution of estate planning documents. (Prerequisite: 10110101 Introduction to Paralegalism)

**110-115 Administrative Law (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to summarize the administrative legal process including the creation and interpretation of administrative rules and regulations as well as the adjudication of administrative law cases, with emphasis on Workers Compensation and Social Security Disability law. (Prerequisite: 10110101 Introduction to Paralegalism)

**110-130 Real Estate Law - Paralegal (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to analyze types of real estate ownership; analyze the effect of the Marital Property Act on real estate; determine the requirements of listing contracts; draft legal descriptions; draft an offer to purchase; negotiate a real property sale; prepare financing documents; compare abstracting and title insurance; record deeds; compare land contracts; summarize foreclosure procedure; draft closing documents; compare landlord and tenant rights and responsibilities. (Corequisite: 10110101 Introduction to Paralegalism)

**110-141 Computer Applications - Legal (Lakeshore Technical College Course) - 3 Crs.** Provides the student with skills to use computer applications typical to a law office including spreadsheets; database; e-mail; time-keeping and billing software; litigation management software; and the Internet. (Prerequisite: 10110101 Introduction to Paralegalism)

**110-142 Paralegal Internship (Lakeshore Technical College Course) - 3 Crs.** Enhances the participant's ability to perform the duties of a paralegal; to seek and obtain employment as a paralegal; apply paralegal skills in an actual workplace setting; to perform legal research and writing; and understand law office systems and administration. Students are responsible for seeking and obtaining an internship position for a minimum of 140 hours in a legal environment under the supervision of an attorney or other qualified professional, completing an internship agreement and learning contract, maintaining a work log and obtaining approval from the internship instructor. (Corequisite: 10110105 Legal Writing)

**110-168 Criminal Law - Paralegal (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to analyze state and federal criminal procedures, determine if a search and arrest is in accordance with the Fourth Amendment, analyze the Miranda rules, draft a criminal summons and complaint, determine possible defenses for a defendant, draft motions, analyze a criminal complaint and jury instructions for required elements, create demonstrative evidence, create a trial notebook, conduct a client interview, and contrast prosecution and defense roles. (Prerequisite: 10110101 Introduction to Paralegalism)

**111-101 Introduction to Graphic Communication - 3 Crs.** Introduces the student to the electronic publishing process. Topics include hardware and software requirements, materials and workflow issues. Emphasizes the construction of computer-based mechanicals utilizing QuarkXPress page layout software and paste-up techniques. Recommended: Keyboarding skills of 20 words a minute.

**138-150 Global Business Management - 3 Crs.** Provides an overview of international trade including marketing of products, exporting and importing principles, financial considerations in the international marketplace and trade regulations that affect international operations. Students explore the opportunities and challenges of doing business in the rapidly emerging global economy.

**138-160 Global Supply Chain Management - 3 Crs.** Explores Incoterms, the harmonized system and import procedures of products. Students receive an overview of different modes of transportation, methods of payment and marine insurance. Conflict resolution is stressed throughout the course.

**138-180 Global Trade Finance - 3 Crs.** Explores the intricacy of the foreign market, hedging against fluctuations, the global capital market and the development of the euro. Major types of risks in export financing and techniques of hedging against such risks are discussed.

**140-101 German 1 - 2 Crs.** Establishes a cultural and conversational foundation for professionals who work with German-speaking individuals. Focuses on vocabulary familiarization and building work recognition and usage, understanding German culture and social structure, and application of concepts in international business and educational environments.

**140-102 German 2 - 2 Crs.** Builds on the elements of communication (addressed in German 1), expanding grammar and providing the necessary vocabulary for meaningful situations in reading and conversational role-playing, using topics of general and current interest found in the German-speaking countries. (Prerequisite: 140-101 German 1)

**140-105 French 1 - 2 Crs.** Focuses on basic grammar, word building, and communication at an elementary level as well as an understanding of French culture and traditions for professionals who relate to French-speaking people in an international business environment. Emphasizes application of language skills in the workplace.

**140-106 French 2 - 2 Crs.** Builds on the elements of communication (addressed in French 1), expanding grammar and providing the necessary vocabulary for meaningful situations in reading and conversational role-playing, using topics of general and current interest found in the Francophone world. (Prerequisite: Completion of or concurrent enrollment in 140-105 French 1)

**140-109 Spanish 1 - 2 Crs.** Explores basic Spanish communication skills through practice in listening, speaking, reading and writing. Students acquire vocabulary and grammar in order to develop the ability to speak, write, read and understand spoken Spanish. Emphasizes novice-level conversation, grammar usage, vocabulary development and acquisition of cultural information. Hands-on activities are presented in Spanish so that students become confident in their use of the Spanish language.

**140-110 Spanish 2 - 2 Crs.** Explores Spanish communication skills through practice in listening, speaking, reading and writing. Students acquire and build on previously learned Spanish vocabulary and grammar usage in order to further develop their knowledge of the Spanish language. Emphasizes novice to mid-novice level of conversation, listening exercises, grammar usage, vocabulary development, and reading for acquisition of cultural information. Hands-on activities are presented in Spanish so that students become confident in their use of Spanish. (Prerequisite: Completion of or concurrent enrollment in 140-109 Spanish 1)

**140-111 Spanish 3 - 2 Crs.** Develops further speaking, listening, writing, and reading skills in Spanish. Focuses on Hispanic culture at the highest beginning Spanish level. Expresses the past and compares the preterit and imperfect past tenses. Applies Spanish grammar rules to issue commands at the formal and informal levels. Explores the subjunctive mood. Develops listening and pronunciation skills using the Internet. (Prerequisite: 140-110 Spanish 2 or dean consent)

**140-115 Spanish for Dairy Farmers - 1 Cr.** Emphasizes development of basic communication skills through practice in listening, speaking, reading and writing. Studies customs and values and provides an increased awareness of the Spanish-speaking cultures. Upon completion, you will be able to participate in uncomplicated conversations on everyday topics.

**140-190 International Study - 3 Crs.** Emphasizes the importance of integrating international awareness in the student's program. Students explore the facets of the international environment examining ethical, cultural, social and organizational similarities and differences.

**140-191 International Study - 2 Crs.** Emphasizes the personal and business skills necessary to succeed in a global economy by focusing on a selected culture. Students explore the business practices, customs, norms/taboo and communication styles for a selected culture.

**140-192 International Study - 1 Cr.** Emphasizes the personal skills necessary to succeed in a global economy. Students explore the similarities and differences in

cultures and communication styles and develop a plan to minimize personal prejudices and stereotypes.

**145-185 Organizing Your Small Business - 3 Crs.** Explores the components of small business ownership by examining available resources, identifying trends and opportunities, discussing the parts of a business plan, and assessing own readiness to pursue a small business opportunity.

**145-186 Financial Management for Your Small Business - 3 Crs.** Emphasizes the importance of good recordkeeping systems and reports and the records necessary for a small business. Financial analysis techniques are explored through hands-on income statements and cash flow projections for small businesses. Financial and other technical support resources are identified. This course is required for individuals seeking to obtain the Entrepreneurship for Small Business Certificate.

**145-187 Marketing Your Small Business - 3 Crs.** Enables prospective or existing business owners/managers to implement and evaluate a marketing plan for their small business. Students develop a marketing plan for a selected small business. Components of the plan include market research, customer focus, quality, pricing and advertising.

**145-188 Entrepreneurial Management - 3 Crs.** Assists entrepreneurs in developing effective leadership skills. Focuses on the structure for management of a business and customer relations including developing an internal and external customer service plan.

**145-189 Writing a Business Plan for Your Small Business - 3 Crs.** Focuses on the business plan as a necessary component to beginning and/or growing a small business. Students address facets of the business plan, from observing various types of plans to realizing readiness to begin and/or expand one. Preparation of a business plan, as well as presentation of the plan, are required. (Prerequisites: 145-185 Organizing Your Small Business; 145-186 Financial Management for Your Small Business; 145-187 Marketing Your Small Business; 145-188 Entrepreneurial Management)

**150-101 Network+ - 2 Crs.** Investigates and applies concepts, terminology, software, hardware and theory expected of computer network support technicians. Focuses on network media and its physical and logical arrangement, protocols and standards, network implementation and support. Helps students prepare for the CompTIA Network+ certification exam.

**150-102 Microsoft Workstations - 3 Crs.** Examines user interface, installation, administration and troubleshooting of current Microsoft workstation operating systems. Emphasizes operating systems from the viewpoint of the support person.

**150-103 Network Cabling - 2 Crs.** Students apply electrical concepts that are critical to computer networks. Examines inappropriate installation procedures causing degradation in cable performance. Includes applications in the termination and testing of copper and fiber optic cabling. (Prerequisite: 150-101 Network+)

**150-120 Microsoft Servers - 3 Crs.** Covers the user interface, installation, administration and troubleshooting of Microsoft server operating systems from the viewpoint of the support person. Students compare and contrast among Microsoft server network operating systems. (Prerequisite: 150-102 Microsoft Workstations)

**150-130 IT Administration - 3 Crs.** Presents overview of management, network analysis, help desk, and upgrade aspects of IT administration. Students research security standards for Internet presence, mainframe, networks, firewall configuration and design, and they conduct security reviews for compliance. Using a fictitious company, students budget, staff and establish policies from an administration viewpoint. This class is the exit assessment for IT-Network Support Specialist. (Prerequisites: 150-101 Network+ and 150-141 Computer Network Installation; or 150-143 Linux Network Administration)

**150-140 Microsoft Network Administration - 3 Crs.** Analyzes the day-to-day tasks performed by the network administrator. Students have extensive hands-on practice carrying out administration and configuration tasks on a Microsoft server network. (Prerequisite: 150-120 Microsoft Servers)

**150-141 Computer Network Installation - 2 Crs.** Students design a structured cabling system for a computer network, install peer-to-peer computer networks, implement client-server computer networks, and provide wireless connectivity for a computer network. (Prerequisites: 150-101 Network+ and 154-111 Computer System Maintenance; or 150-103 Network Cabling)

**150-143 Linux Network Administration - 2 Crs.** Examines specifically how to perform network administration tasks for a Linux network operating system. Students have extensive hands-on practice carrying out administration tasks on a Linux server network. (Prerequisites: 150-102 Microsoft Workstations; 150-120 Microsoft Servers; 150-140 Microsoft Network Administration)

**150-191 Principles of Information Security - 2 Crs.** Develops security policies and strategies after exploring the concept of trustworthy computing and the important role that security plays with respect to people, processes and technologies in an organization. The course is structured around three phases of network security: planning, building and managing network security policies.

**150-192 Network Security Fundamentals - 2 Crs.** Provides a detailed overview of the fundamentals of network security. Covers security topology, intrusion detection, firewalls, routers and their configuration, access lists, authentication and encryption, in addition to reviewing the different methods of attacks such as viruses, Trojan horses and worms. Also covers wireless technology security. The structure of the course assumes students have a solid understanding of LAN/WAN fundamentals. (Prerequisite: 150-191 Principles of Information Security)

**150-193 Network Attacks and Firewalls - 3 Crs.** Introduces strategies to detect and prevent common computer attacks and vulnerabilities using security technologies. Students explore techniques on how to stay current on vulnerabilities and other security topics. (Prerequisite: 150-192 Network Security Fundamentals)

**150-194 Network Defense and Countermeasures - 3 Crs.** Examines methods to use to secure a network perimeter. Students examine and use tools to secure computers running versions of Windows. Includes Microsoft Baseline Security Analyzer (MBSA), Solarwinds Remote Management System and other RSA standard security tools. Network encryption and authentication tools are examined. (Prerequisite: 150-193 Network Attacks and Firewalls)

# COURSE DESCRIPTIONS (CONT.)

**152-103 Introduction to Web Site Design - 1 Cr.** Focuses on basic design, development and publishing of Web sites using Microsoft Expression Web software including an introduction to the code being produced by the software.

**152-104 Intermediate Web Site Design - 2 Crs.** Enhance Web sites with advanced features of MS Expressions Web to create Web sites by employing use of templates, master data pages, media CSS techniques, security features, ASP.NET for data connectivity, validation techniques and using Expression Add Ons. (Prerequisite: 152-103 Introduction to Web Site Design)

**152-107 Graphics for the Web - 2 Crs.** Create type, Web backgrounds, rollovers, transparent graphics, Web galleries, and data-driven graphics within Photoshop. Gain skill in designing graphic navigation elements, slicing images and incorporating into Web content, optimizing images, and applying color management for the Web.

**152-112 HTML/XML - 3 Crs.** Write valid HTML code using plain text editors employing CSS for formatting and layout of Web pages. Create well-formed and valid XML documents that bind XML data, use DTDs, namespaces and data types. Explore and use XML tools.

**152-113 JavaScript - 3 Crs.** Develops skills in using JavaScript language to create Web-based applications and to add animation and interactivity to a Web site. Addresses utilizing preexisting scripting sources, modifying script from other sources and creating original scripting features. (Prerequisite: 152-112 HTML/XML)

**152-115 Web Site Design, Implementation and Maintenance - 3 Crs.** Perform the tasks involved in the process and documentation of strategic planning, implementing and maintaining a Web site in a team-based environment. Addresses specific tasks in the Web site design, planning and development process such as: project scope and proposals, budgeting, scheduling, specifications, obtaining domain names, registering Web sites, end-user analysis, statistics, testing and troubleshooting, training, and presentation topics. (Prerequisite: 152-103 Introduction to Web Site Design or 152-112 HTML/XML)

**152-117 Emerging Web Technologies and Trends - 1 Cr.** Evaluates new technologies, emerging trends, new standards and specifications in the Web development field by performing application of these in the Web site design/development process. Investigation and use of resources and tools for maintaining up-to-date skills in the field will be done. Self-directed learning skills will be developed. (Prerequisite: 152-113 JavaScript)

**152-118 Database-Driven Web Sites - 3 Crs.** Investigates elementary database design techniques. Students explore structured query language (MySQL) to manipulate information in databases. Software components and configuration needed to query the database and display its data on a Web page are examined. (Prerequisite: 152-104 Intermediate Web Site Design)

**152-119 Web Developer Concepts - 2 Crs.** Provides a conceptual overview of computer, network, Internet, and Web site concepts. Students focus on developing and applying core Internet and Web terminology in regards to network and Internet infrastructures and development concepts.

**152-120 Web Developer Internship - 3 Crs.** Provides an opportunity to apply skills learned in prior Web Design/Development coursework to internships in work settings. Emphasis is on seeking a job, applying skills to the job tasks, adapting to company culture, modeling the core abilities, and demonstrating online collaboration and communication. Employment-ready work samples are required upon course entry. (Prerequisite: Completion of or concurrent enrollment in 152-124 e-Commerce: Designing and Marketing Web Sites)

**152-124 e-Commerce: Designing and Marketing Web Sites - 3 Crs.** Investigates benefits of e-commerce technologies and solutions. Will plan design and develop a Web site incorporating e-commerce technologies to sell products and services including SEO, traffic building, and marketing techniques. Explores integrating with the company's current technology structure and business processes including financial, marketing and distribution. (Prerequisite: 152-118 Database-Driven Web Sites)

**152-125 Programming Logic - 2 Crs.** Studies structured flowcharting logic for business application programs. Students examine flowcharting concepts, along with required logic, to solve business problems. Students design and then draw the required structure flowcharts. Problem-solving techniques are presented as they apply to business application computer programming.

**152-126 Introduction to Systems Analysis - 3 Crs.** Introduces the System Development Life Cycle (SDLC) as the logical sequence of steps for successful completion of a system project. All phases of the SDLC are investigated along with their rationale.

**152-127 Visual Studio Developer - 3 Crs.** Engages students in a hands-on, lab-oriented course to create object-oriented, event-driven programs. Students use control structures, variables, arrays, procedures and functions to manipulate VB objects and methods. Online sections: On-campus lab instruction available.

**152-128 Visual Basic, Database Connectivity - 3 Crs.** Create object-oriented, event-driven applications that incorporate several programming techniques and interfaces. Develop competencies in database management using ADO and Sequential Query Language (SQL). Build applications incorporating Windows Common Controls, MDI forms, and Crystal Reports. Online sections: On-campus lab instruction available. (Prerequisite: 152-127 Visual Studio Developer)

**152-129 Visual Basic, Business Applications - 3 Crs.** Introduces Web services and class objects in programming. Students create distributed applications by means of XML Web services and object remoting and explore uses of Visual Basic 2005 and Microsoft SQL Server while developing reusable .NET class objects that incorporate ASP.NET objects. Online sections: On-campus lab instruction available. (Prerequisite: 152-127 Visual Studio Developer)

**152-134 Visual Basic, SQL Applications - 3 Crs.** Introduces students to developing relational database applications using the Microsoft SQL Server database and Visual Basic.NET. Students create and modify database tables using SQL Server, then manipulate table data using Visual Basic. Introduces students to querying an SQL Server database using Transact-SQL. Students create complex queries that join multiple database tables and stored procedures that interact with database tables, then use those objects inside a VB.NET application. Online sections: On-campus lab instruction available. (Prerequisite: 152-128 Visual Basic, Database Connectivity or 152-129 Visual Basic, Business Applications)

**152-135 Microsoft Access Development - 3 Crs.** Develops business applications using Microsoft Access XP and Visual Basic for Applications (VBA). Students add functionality to Access databases by manipulating forms, reports, queries and tables using VBA. Students also import and export data, create procedures and functions, create validation routines, and perform debugging. The Structured Query Language (SQL) of Microsoft Access is also exposed to the developer as well as interaction with outside programs and the Internet. Online sections: On-campus lab instruction available. (Prerequisite: 103-188 Advanced Microsoft Access)

**152-137 Java Programming - 2 Crs.** Introduces an overview of Java and explains its role in the computing environment. Students learn the fundamentals of the Java language, including classes and objects. Highly recommended students have prior programming experience.

**152-138 Advanced Java Programming - 2 Crs.** Students gain skills employing advanced topics such as JavaBeans, Enterprise JavaBeans, network programming, J2EE features, and security through code examples, sample programs, and application exercises. Take your Java programming skills to the next level with this course! (Prerequisite: 152-137 Java Programming)

**152-139 C# Development - 3 Crs.** Introduces the principles of programming in C#. Students will write, test, debug and execute programs. Students use the Visual Studio.NET development suite to create control structures, methods, arrays, data files and object classes. Online sections: On-campus lab instruction available.

**152-147 Systems Analysis and Design - 3 Crs.** Examines the process of developing information systems that use hardware, software, data, processes and people to support a company's business objectives. Provides fundamentals for a potential systems analyst to develop business systems that will support operations, improve productivity and provide information so managers can make sound business decisions. (Prerequisites: 152-126 Introduction to Systems Analysis; 152-125 Programming Logic or 152-127 Visual Studio Developer)

**152-148 Systems Analysis and Implementation - 3 Crs.** Designed as a capstone experience, this course provides hands-on development and implementation of the case study project that was designed in the prerequisite class 152-147 Systems Analysis and Design. Students work as a team to code RPG/400 and Visual Basic programs that are then implemented on the AS/400 and evaluated. This working system finalizes the System Development Life Cycle. (Prerequisites: 152-128 Visual Basic, Database Connectivity; 152-147 Systems Analysis and Design)

**152-199 Applications Developer Internship - 3 Crs.** Provides field experience as a micro programmer specialist. Students spend 216 hours working at the job site with training supervised by Moraine Park in cooperation with the business site. (Prerequisites: 103-181 Microsoft Access; 103-188 Advanced Microsoft Access; 152-127 Visual Studio Developer; 152-128 Visual Basic, Database Connectivity)

**154-101 e-Commerce Management Decisions - 3 Crs.** Introduces students to e-commerce and its benefits. Students explore the factors a company must assess in deciding whether to implement e-commerce and research the challenges companies address as they implement e-commerce. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**154-111 Computer System Maintenance - 3 Crs.** Presents processes, techniques, resources and tools to provide computer system support to users. Emphasizes logical troubleshooting rather than relying on symptoms/solution lists (guesswork). Students will use these skills at the Computer Clinic at Moraine Park. Students will have an opportunity to provide technical support to individuals that bring their computer to the Computer Clinic for service. Customer service skills will be emphasized throughout the practicum course. (Prerequisite: 154-112 Hardware/Software Support)

**154-112 Hardware/Software Support - 3 Crs.** Focuses on installing, modifying, configuring and upgrading computer hardware and software items; performing preventative maintenance on computers; and optimizing a computer system. Backing up hard drives, general computer maintenance, and tools to maintain and configure computers will be covered.

**154-113 Help Desk Concepts - 3 Crs.** Focuses on help desk functions, analyzing help desk software and tools, customer service skills for help desk employees, creating training sessions for end users, creating documentation for computer end users, and researching marketing and communications tools for a help desk.

**154-115 Training and Development in Office Systems - 3 Crs.** Apply the principles of adult learning theory, analyze training needs based on skill or job performance deficiencies, conduct a needs and cost analysis, write learning plans and compose documents reflecting the levels of training evaluations. Students will be required to make training session presentations. (Prerequisite: 801-195 Written Communication)

**154-119 Technical Support Internship - 3 Crs.** Provides field experience as a technical support specialist. Students earn one credit per 72 hours in on-the-job training supervised by Moraine Park in cooperation with a business or industry. The student is responsible for obtaining an instructor approved position and internship site before enrolling in the course.

**154-120 Microcomputer Operating Systems - 2 Crs.** Introduces operating system functions and commands. Includes operating system concepts, disk and file formats, and disk and file management. Students will learn how to work through the command line of the operating system and create and use batch files for automated system tasks using Windows command line.

**194-178 Real Estate Brokerage - 2 Crs.** Prepares students to sit for the Real Estate Broker's License exam. Develops skills in identifying elements and uses of market analysis and real estate sales. Introduces concepts of sales management and staff compensation. Orients students to concepts in contract law and explores forms used in real estate brokerage. Meets Wisconsin's 36-hour educational requirement for those seeking a broker's license. Note: A real estate sales license is required before a broker's license will be issued by the State of Wisconsin.

**194-190 Real Estate Preparation - 3 Crs.** Introduces the fundamentals required for acting as a salesperson in the brokering of real estate. Develops skills in the topical items identified in current Wisconsin Administrative Code. Meets Wisconsin's 72-hour educational requirement for those seeking a sales license.

**196-105 Recruitment and Retention of Employees (Lakeshore Technical College Course) - 3 Crs.** Applies and skills and tools necessary to hire and retain qualified employees. Legal issues, testing, screening, interviewing, selecting and negotiating techniques will be demonstrated and assessed for each student.

**196-134 Legal Issues for Supervisors - 3 Crs.** Provides an overview of the general legal responsibilities of an organization. Analyzes the current employment laws in the United States and their impact on employers/employees. Examines the supervisor's role in dealing with harassment in the workplace. Compares how appeals can be addressed in both a union and nonunion environment.

**196-136 Safety in the Workplace - 3 Crs.** Introduces safety and loss prevention in the workplace with an emphasis on the supervisor's responsibility for maintaining a safe, productive environment. Studies safety concepts, hazard controls, developing safety and health programs, and federal- and state-mandated regulations.

**196-151 Employee Relations - 3 Crs.** Enhances the ability to understand and develop employee-focused programs, policies and procedures such as formal and informal communications, employee recognition and conflict resolution. Valuing diversity in the workforce is emphasized.

**196-152 Orientation and Training - 3 Crs.** Evaluates training and development skills through practice and skill-building activities. Students develop training strategies using a variety of delivery formats. Needs and cost analysis, competency and performance standards, and facilitation skills are incorporated.

**196-153 Compensation and Benefits - 3 Crs.** Focuses on the various components that make up a total employee compensation package. Base pay, merit pay and variable pay programs are covered. Students examine benefits including governmental regulation, group welfare plans, pension plans and flexible benefit plans. Students explore the impact of current trends.

**196-154 Recruiting and Hiring - 3 Crs.** Focuses on recruiting, selection and hiring practices. Students examine what today's workforce expects, how to efficiently use the recruitment budget and all steps within the hiring process.

**196-160 Leadership Capstone - 3 Crs.** Through a capstone project that benefits the community, participants develop leadership skills in team building, problem solving, priority management, proactive listening, constructive feedback, change navigation, conflict resolution, and influence strategies. In addition, participants explore various volunteer leadership opportunities within a community by examining the impact of city and county government, educational institutions, business and industry, and nonprofit organizations upon a community through presentations, discussions and tours.

**196-164 Personal Skills for Supervisors - 3 Crs.** Applies the skills and tools necessary to deal with time management, stress and related challenges to a supervisor. Students demonstrate the application of time management techniques, personal planning, continuous learning, valuing rights and responsibilities of others, effective communication, assertiveness and dealing effectively with stress.

**196-168 Organizational Development - 3 Crs.** Addresses organizational issues related to how we work and exist within an organizational setting. Explores the environment of organizations, technology, personality and attitudes of members of an organization. Analyzes how these themes affect organizational behavior. Equips managers with skills to manage behavior of people and to develop processes within an organization.

**196-169 Diversity and Change Management - 3 Crs.** Addresses changes in the workforce and their effect on the organization. Explores diversity, including values, age, gender, disabilities, education and culture. Provides a framework to gain advantage by blending and capitalizing on the different skills and perspectives of people and creating an organization where everyone gives their best.

**196-188 Project Management - 3 Crs.** Introduces the project management process including needs assessment, identification of project resources and costs, establishment of a project schedule, managing the project and assessing the results. In teams, project management concepts are used to analyze problems and create solutions. Students complete true-to-life projects. Basic computer skills recommended.

**196-189 Team Building and Problem Solving - 3 Crs.** Provides opportunities to explore the benefits and challenges of group work, identify the stages of team development, and recognize roles of team players. Examines a systematic problem-solving process. Students apply skills and tools to facilitate problem solving in a team environment.

**196-190 Leadership Development - 3 Crs.** Applies the skills and tools necessary to fulfill his/her role as a modern leader. Each student will demonstrate the application of evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change, and effective conflict resolution.

**196-191 Supervision - 3 Crs.** Builds skills necessary for a supervisor to direct individuals and the work that needs to be done within the structure of an organization. Emphasizes the human behavioral aspect of supervision. Focuses on the practical application of supervisory principles of organizing, staffing, leading and controlling.

**196-192 Managing for Quality - 3 Crs.** Examines the role of the supervisor in assisting an organization to produce a quality product and/or service. Examines the Total Quality Management concepts and tools needed in the workplace to stay competitive. Ways to incorporate these concepts and tools will be examined in detail.

**196-193 Human Resource Management - 3 Crs.** Applies the skills and tools necessary to effectively value and apply employees' abilities to organization goals. Demonstrates the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies and procedures, training, performance management, employee counseling and development, and effective use of compensation and benefit strategies.

**204-111 Typography - 3 Crs.** Covers basic principles of typography and designing with type. Includes laboratory experience in typographic specifications, computerized copyfitting, creating comprehensive layouts, the application of grid systems, and the use of typographic letterforms in publication design. Uses Adobe InDesign. A basic knowledge of computer operating system and some familiarity with Adobe InDesign recommended.

**204-121 Publishing Principles - 2 Crs.** Develops an overview of the printing and publishing process, including paper, inks, press operation and bindery. Students gain experience and knowledge in the area of publication planning, printing specifications and customer/printer relations.

# COURSE DESCRIPTIONS (CONT.)

**204-131 Electronic Photographics With Photoshop - 3 Crs.** Introduces electronic photographic image capture and reproduction. The course proceeds from advanced tutorials to input/output calibration, through grayscale and process color reproductions. It includes black and white and color desktop scanning. Students should be familiar with Photoshop software.

**204-134 Design, Production and Planning: Workflow - 3 Crs.** Applies principles of pdf workflow with an emphasis in design concepts, using design elements developed in 204-165 Principles of Graphic Design and 204-166 Graphic Design for Printing. Students will incorporate their individual design framework on real world output projects.

**204-141 Electronic Illustration With Adobe Illustrator - 2 Crs.** Covers the fundamental concepts and features of Adobe Illustrator. Students use software tutorials to focus on learning the Adobe Illustrator user interface focusing on document creation and fundamental vector image tools and procedures. Basic computer skills are required.

**204-143 Electronic Illustration With CorelDRAW - 2 Crs.** Provides hands-on experience with object-oriented illustration software for the creation or modification of artwork for electronic publication. Procedures from fundamental image-creation concepts through autotracing and coloring black and white images are covered. Software for this course is CorelDRAW. The student should be familiar with Adobe Illustrator software.

**204-144 Electronic Illustration 2 With Vector Graphics - 3 Crs.** Applies vector graphic creation tools and procedures to the construction of print-specific images. Emphasis is on process-color reproduction. Students will build skills in creating, modifying, editing and applying image content to match reproduction requirements. Reflects required skills for advertising signage and imprinting applications. (Prerequisite: 204-141 Electronic Illustration With Adobe Illustrator)

**204-163 Acrobat PDF - 2 Crs.** Covers the fundamental concepts and features of Adobe Acrobat needed to create and edit PDF files. Students use software tutorials to focus on learning Adobe Acrobat Pro user interface and PDF document creation and editing procedures. Online students need to use the current version of Adobe software.

**204-165 Principles of Graphic Design - 2 Crs.** Introduces students to the basic formal elements and principles of two-dimensional graphic design. Uses visual exercises and practical projects to explore visual and creative thinking strategies to develop more effective visual communication. Basic computer skills are recommended.

**204-166 Graphic Design for Printing - 3 Crs.** Gain experience in graphic design styles and the evolution of different design periods. Identify principles and elements the designer used in the creation of components and their importance in the overall appearance. Designers will be researched with specific period styles to help students develop their specific style. (Prerequisite: 204-165 Principles of Graphic Design)

**204-168 Design, Production and Planning II: Digital Output - 3 Crs.** Focuses on designing using the creative approach to electronic files client specific print production projects. Print document publications will be utilized to deliver instruction. Brings together layout, typography, image acquisition, creation and modification software skills learned in page layout, illustration, photographics and typography classes. (Prerequisite: 204-134 Design, Production and Planning: Workflow)

**204-171 Prepress Production and Planning: Workflow - 3 Crs.** Applies principles of PDF workflow: PDF editing, imposition and trapping methods and procedures. Modifies PDF files, applies imposition software and applies digital workflow principles to creation and output documents intended for print reproduction. It is recommended that students complete 204-111 Typography and 204-131 Electronic Photographics With Photoshop prior to this course.

**204-172 Prepress Production and Planning 2 With Digital Output - 3 Crs.** Focuses on designing and creating press-ready electronic files for a client-specified, process-color publication using desktop computer technology. This course brings together layout, typography, image acquisition, creation and modification software skills learned in page layout, illustration, photographics and typography classes. (Prerequisite: 204-171 Prepress Production and Planning: Workflow)

**204-181 Prepress Process (Color) - 3 Crs.** Provides participants with an in-depth understanding of the theory of color as it relates to prepress. Topics explored include the basics of color, the properties of color, the four-color process and color measurement devices. These topics will be delivered via lectures, text readings and exercises in traditional and electronic prepress procedures.

**204-185 Press Technologies 1 - 3 Crs.** Introduces offset press principles, press setup and hands-on press operation. Features problem solving on the press and basic press maintenance. Students develop skill in printing on papers of various kinds, weights, textures and sizes as well as various inks.

**204-186 Press Technologies 2 - 3 Crs.** Continues to develop skill in hands-on press operation. Complex jobs are printed employing decision-making and problem-solving skills. Jobs are printed with less direction. Student exercises independent judgment and completes jobs entailing interpretation of job ticket, setting up the press, printing the job and performing press cleanup. (Prerequisite: 204-185 Press Technologies 1)

**204-187 Postpress Technology - Finishing and Binding - 2 Crs.** Introduces finishing processes and concepts employed in the printing industry. Focuses on trimming, folding, gathering, booklet making, padding, binding, stitching, drilling and ink jet operations.

**204-188 Color Theory - 3 Crs.** Provides an understanding of basic color principles essential for making informed decisions during the color reproduction process. Explores the history and theory of color. Applies the theory of color to everyday life.

**204-189 Introduction to Printing Estimating - 3 Crs.** Provides students with procedures necessary for estimating and pricing graphic products and services. The two general procedures, cost estimating and price estimating, will be examined. Skills used to estimate paper and ink cost will be practiced. Estimate procedures required for prepress, press and postpress production will be covered.

**204-190 Digital Printing Concepts - 3 Crs.** Addresses digital printing technologies, processes and benefits. Explores the differences of digital printing versus conventional and offset printing. The market where digital printing is employed will be defined.

**204-191 Postpress Technologies - Distribution - 3 Crs.** Introduces distribution processes employed in the printing industry. Focuses on developing skills in designing mail streams by presort level and applying postal and technological criteria to mail classifications

for periodicals and standard A and B mail. Rules of the domestic mail manual are applied.

**204-192 Press Internship - 3 Crs.** Provides an opportunity for Printing and Publishing program students, who have completed at least two semesters of study, to apply in the workplace the concepts and skills they have learned operating press equipment. Emphasis is on printing of jobs employing press setup, operation and cleanup skills. (Prerequisite: 204-186 Press Technologies 2)

**204-193 Postpress Internship - 3 Crs.** Applies concepts and skills to operating finishing equipment. Emphasis is on performing finishing operations such as trimming, folding, gathering, booklet making, padding, binding, stitching and drilling. (Prerequisite: 204-187 Postpress Technology - Finishing and Binding)

**307-102 ECE: Preschool Capstone - 3 Crs.** Capstone is the last course students take prior to completing the Preschool Credential. Covers and revisits important themes from the prior five courses. Students synthesize information and demonstrate mastery of the competencies through the completion of a portfolio. (Prerequisites: 307-148 ECE: Foundations of Early Childhood Education; 307-167 ECE: Health, Safety and Nutrition; 307-178 ECE: Art, Music and Language Arts; 307-179 ECE: Child Development or 522-106 IA: Child and Adolescent Development; 307-188 ECE: Guiding Children's Behavior or 522-111 IA: Guiding and Managing Behavior)

**307-110 Behavioral and Emotional Challenges - 3 Crs.** Covers specific discipline and guidance strategies and individualized intensive interventions based on the CSEFEL (Center on Social and Emotional Foundations for Early Learning) curriculum with additional inclusion strategies related to autism, attention deficit disorder, bipolar disorder, reactive attachment disorder, conduct disorder, oppositional defiant disorder, obsessive compulsive disorder, brain injuries, etc., while focusing on building rapport with families and communicating the need for positive, consistent, team approaches to including children with challenging behaviors in typical community settings.

**307-111 Special Healthcare Needs - 3 Crs.** Covers frequently encountered specialized healthcare needs of individuals with disabilities, preparing the student to examine altered body systems function, including sensory, gastrointestinal (tube feedings), bowel and bladder elimination, respiratory (allergies and asthma), cardiovascular/blood, musculoskeletal, neurological, skin/immune, and endocrine (diabetes) related issues. You will not be practicing medicine, but will gain a better understanding of medical issues and professionals who can support you in establishing policies and procedures that assure safe, quality care.

**307-112 Family and Team-Centered Practices - 3 Crs.** Students volunteer in an Early Childhood Education (ECE) program with a child who has special needs and spend time with that child's family at home and in the community. Students have the opportunity to participate with a child and a family in daily routines and community settings, i.e., church, grocery shopping, library, therapy settings, etc. Students complete the required Credential Portfolio and culminate in the Wisconsin Registry Commission process. (Prerequisites: 307-110 Behavioral and Emotional Challenges; 307-111 Special Healthcare Needs; 307-187 ECE: Children With Differing Abilities; criminal background check/BID; health form)

**307-131 Administration and Supervision - 3 Crs.**

An overview of roles and responsibilities of directors, supervisors, coordinators and other administrators in early childhood programs.

**307-132 Operations Management - 3 Crs.**

Discussion and practical applications related to scheduling, facility management, staffing, equipment acquisition and maintenance, service delivery, recordkeeping and communication.

**307-133 Financial Management - 3 Crs.**

A review of principles and practices in budget planning and preparation and fiscal management, including hands-on experience with program applications.

**307-134 Early Childhood Programs and the External Environment - 3 Crs.**

Review of early care and education programs including determination of community child care needs, marketing, laws and regulations, working with government and community agencies, and political and societal issues and trends.

**307-135 Best Practices - 3 Crs.**

Establishing and maintaining quality programs based on professional standards and the best available information on child growth and development. Includes a review of literature and research studies, examination of guidelines set for licensing, credentialing of staff and national accreditations of programs, funding requirements and performance standards.

**307-136 Administrative Seminar - 3 Crs.**

Culminating experience in the credential course sequence. Individual projects are required with a focus on the integration of program aspects in developing strategic planning for change. (Prerequisites: 307-131 Administration and Supervision; 307-132 Operations Management; 307-133 Financial Management; 307-134 Early Childhood Programs and the External Environment; 307-135 Best Practices)

**307-148 ECE: Foundations of Early Childhood Education - 3 Crs.**

Introduces students to the early childhood profession. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models; analyze the principles of the Wisconsin Model Early Learning Standards.

**307-151 ECE: Infant and Toddler Development - 3 Crs.**

Students will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine culturally and developmentally appropriate environments for infants and toddlers; examine the role of brain development in early learning (conception through age three); examine caregiving routines as curriculum.

**307-166 ECE: Curriculum Planning - 3 Crs.**

Examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; integrate Developmentally Appropriate Practice (DAP) into curriculum; develop activity plans that promote child development and learning; develop curriculum plans

that promote child development and learning across all content areas; analyze early childhood curriculum models. (Prerequisites: 307-178 ECE: Art, Music and Language Arts; 307-194 ECE: Math, Science and Social Studies)

**307-167 ECE: Health, Safety and Nutrition - 3 Crs.**

Examines the topics of health, safety and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety and nutrition concepts into the children's curriculum.

**307-174 ECE: Practicum 1 - 2 Crs.**

Students learn and apply course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children and adults; analyze the guiding principles and the five developmental domains related to the Wisconsin Early Learning Standards; integrate the Wisconsin Early Learning Standards into the program's teaching cycle (ongoing assessment, planning and curriculum goals, and implementation); evaluate learning and assessment activities using the early learning standards for each individual child. (Prerequisites: Concurrent enrollment in 307-178 ECE: Art, Music and Language Arts or 307-194 ECE: Math, Science and Social Studies; Infant Child CPR with AED; health; criminal background check)

**307-178 ECE: Art, Music and Language Arts - 3 Crs.**

Focuses on beginning-level curriculum development in the specific content areas of art, music, and language arts. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment for art, music, and language arts; develop activity plans that promote child development and learning; analyze caregiving routines as curriculum; create developmentally appropriate language, literature, and literacy activities; create developmentally appropriate art activities; create developmentally appropriate music and movement activities. Highly recommend taking this course with an ECE practicum course.

**307-179 ECE: Child Development - 3 Crs.**

Examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment; examine the role of brain development in early learning (age three through age eight).

**307-180 Early Childhood Mentor and Teacher Seminar - 2 Crs.**

Focuses on developing skills for early childhood mentor teachers to support, model and articulate best practice in the field to less-experienced protégés. Mentors develop their own professional skills, attitudes and knowledge by reading, reflecting and discussing up-to-date issues in early childhood education.

**307-181 Early Childhood Mentors and Protégés at Work - 3 Crs.**

Provides opportunities for mentors and protégés to share in a joint educational experience. Mentor-protégé pairs examine their early childhood environments and incorporate new ideas of diversity, culture and inclusion into interactions with others. Mentors and protégés use processes of collaboration, problem solving, dialoguing and conflict resolution to set goals.

**307-183 Group Care for Infants and Toddlers - 3 Crs.**

Examines the principles of developmentally appropriate infant/toddler care in center-based and family-child care settings. Program environment, structure and philosophy are explored as are diversity and inclusion and relevant health and safety issues.

**307-187 ECE: Children With Differing Abilities - 3 Crs.**

Focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; work collaboratively through the consultation process to embed intervention in natural based settings; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; cultivate partnerships with families who have children with developmental differences.

**307-188 ECE: Guiding Children's Behavior - 3 Crs.**

Examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy.

**307-192 ECE: Practicum 2 - 3 Crs.**

Students will learn about and apply the course competencies in an actual child care setting. The course competencies include: identify children's growth and development; maintain the standards for quality early childhood education; practice strategies that support diversity and anti-bias perspectives; implement student teacher-developed activity plans; identify the elements of a developmentally appropriate environment; implement positive guidance strategies; demonstrate professional behaviors; utilize caregiving routines as curriculum; utilize positive inter-personal skills with children; utilize positive interpersonal skills with adults. (Prerequisite: 307-174 ECE: Practicum 1)

**307-194 ECE: Math, Science and Social Studies - 3 Crs.**

Focuses on beginning-level curriculum development in the specific content areas of math, science and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment for math, science, and social studies; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities.



# COURSE DESCRIPTIONS (CONT.)

**307-195 ECE: Family and Community Relationships - 3 Crs.** Students will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias perspectives when working with families and community; analyze contemporary family patterns, trends, and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources.

**307-196 Infant/Toddler Capstone - 3 Crs.** Emphasizes the skills needed for students to demonstrate practical application of skills and theory learned in previous courses. Students create individual portfolios of representative examples of their work to submit to the Registry for evaluation.

**307-197 ECE: Practicum 3 - 3 Crs.** Students will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children's growth and development; implement the standards for quality early childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. (Prerequisite: 307-192 ECE: Practicum 2)

**307-198 ECE: Administering an Early Childhood Education Program - 3 Crs.** Focuses on the administration of an early childhood education program. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze the components of an ECE facility; design an ECE program; analyze the aspects of personnel supervision; outline financial components of an ECE program; apply laws and regulations related to an ECE facility; advocate for the early childhood profession. Highly recommend taking this course in the final semester.

**307-199 ECE: Practicum 4 - 3 Crs.** Students will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education. (Prerequisite: 307-197 ECE: Practicum 3)

**316-100 Food Principles 1 - 3 Crs.** Introduces skills in the Culinary Arts program. Prepares students to identify different cooking processes, operate small and large cooking equipment, make basic recipe conversion and food service math calculations, and perform the basic skills to become a chef. Culinary history and an introduction to game cookery are also provided.

**316-101 Food Principles 2 - 1 Cr.** Develops skills in recognizing and defining advanced cooking techniques' flavors and ingredients. Students will explore and research these concepts through classroom and lab assignments and presentations including taste identification, oil and shortening application, exotic fruits and vegetables, seafood and shellfish, herbs and spices, pastas and product procurement.

**316-116 Menu Planning, Management and Design - 1 Cr.** Builds upon basic menu planning knowledge from 316-121 Nutrition. Menus are planned for varying food operations and budgets. Projects will include designing for merchandising, menu pricing procedures and menu analysis.

**316-121 Nutrition - 2 Crs.** Applies the principles of nutrition from a personal and food service perspective. Information will be applied to the individual and to the food service industry. Applies basic nutritional principles to the selection of recipes and preparation methods that meet special dietary guidelines.

**316-133 Food Service Merchandising and Marketing - 2 Crs.** Applies the principles of marketing to service, advertising, promotion, public relations and personal selling to achieve public recognition and goodwill. Students cover the factors that influence the merchandising of food and develop skills and abilities in the artistic preparation of food.

**316-142 Restaurant Operations - 3 Crs.** Applies management skills needed to operate a restaurant or other food service. Emphasizes qualitative and quantitative portion control, work simplification and sanitary standards that are applicable to food service operations.

**316-147 Sanitation and Safety - 2 Crs.** Provides the student with the skills and knowledge to prepare and serve safe and wholesome food to the public. Focuses on the challenges to food safety, developing a food safety system - Hazard Analysis Critical Control Point, working in a safe environment and maintaining sanitary facilities and equipment.

**316-151 Fundamentals of Meat Analysis - 3 Crs.** Develops student's ability to identify meat or poultry by carcass, primal, subprimal and fabricated cuts of meat. Develops student's ability to make wise choices when purchasing meats and poultry by using yield grades, quality grades and pricing structures set in the meat industry. Students will do meat fabricating, meat grinding, meat smoking and sausage making.

**316-153 Food Purchasing - 2 Crs.** Develops purchasing skills needed to understand the complex tasks of selection and procurement of products in the different markets. Provides experiences of planning, controlling and organizing systems for purchasing of foods. Explore grades, standards, markets, specifications and terminology needed to purchase food and supplies for a food service operation.

**316-160 Baking - 2 Crs.** Develops skills in baking yeast-raised products, quick breads, cookies, cakes, pies, breakfast pastries and specialty desserts that are appealing to the eye and palate. Students convert and cost recipes; requisition supplies; weigh and measure ingredients; and mix, shape, bake, garnish, package and merchandise bakery products. Includes integration of safety and sanitation principles in bakery production.

**316-162 Breakfast Pastries - 2 Crs.** Provides students with skills to produce Danish, croissant, puff pastry, sweet dough, strudel and short doughs. Techniques involved in enhancing the flavor and presentation of various breakfast pastries using savory and sweet fillings will be covered. (Prerequisite: Completion of or concurrent enrollment in 316-160 Baking)

**316-163 Specialty Baking, Cakes and Pastries - 2 Crs.** Introduces students to a variety of upscale scratch cake and pastry items that can be produced for restaurants,

hotels, bakeries or home-based baking. Focuses on basic high-quality ingredients, sound production and finishing techniques. (Prerequisite: 316-160 Baking or equivalent for those pursuing a baking certificate. Industry experience or strong desire for personal or professional growth may substitute with dean consent)

**316-164 Specialty Baking, Breads and Yeast Products - 2 Crs.** Produce high-quality baked products using traditional artisan methods and wholesome ingredients for use in bakeries, hotels and restaurants. Products will include lean and enriched breads, sweet dough, croissants, Danish and puff pastry items from scratch. Baker's math and formula conversion will also be covered. (Prerequisite: 316-160 Baking)

**316-165 Catering and Special Function Planning - 3 Crs.** Provides hands-on experience in preparing and costing menus for special functions and banquets. Analyzes planning, controlling and organizing of on- and off-premise catering functions, assessing the importance of purchasing needs, supervisory procedures, sales cost analysis, personnel, preparation, service and evaluation.

**316-167 Food Styling - 2 Crs.** Explores artistic food displays utilizing different products and using advanced culinary techniques. Students compete in statewide competition with hot and cold plate presentation.

**316-168 Artisan Breads - 3 Crs.** Provides students with skills to produce high-quality breads using traditional artisan techniques and wholesome products. Lean, enriched, braided and sourdough breads will be produced. Covers the use of preferments (including sourdough starters), mixing techniques, hand-molding breads and formula development. (Prerequisite: 316-160 Baking)

**316-169 Cakes, Tortes and Desserts - 2 Crs.** Introduces students to a variety of upscale scratch cake and pastry items that can be produced for restaurants, hotels, bakeries or home-based baking. Focuses on basic high-quality ingredients, sound production and finishing techniques.

**316-171 Restaurant Management - 3 Crs.** Addresses the application of managerial principles of planning, controlling and organizing to a food service operation. Provides hands-on experience in costing, inventory, labor controls, sales analysis and yield testing.

**316-175 Specialty Foods and Ethnic Cookery - 3 Crs.** Plan, prepare and serve specialty and ethnic foods in a gourmet restaurant setting. Activities include research of ethnic and specialty foods, advanced food preparation skills, artistic presentation and formal table-side service of those foods. Students perform the following management functions: convert and cost recipes, calculate menu prices, purchase ingredients, plan production, create marketing strategies, and prepare payroll and profit and loss statements. A tetanus shot is recommended prior to the course.

**316-180 Gourmet Cooking - 1 Cr.** Emphasizes competencies from throughout the program as related to the offering of the final dinner. Students will attend organizing lecture sessions and receive specific lab assignments for the preparation of the dinner.

**316-181 Customer Sales and Service - 1 Cr.** Categorizes trends, business habits and personal attitudes for a deli/bakery business. Analyzes procedures for selling, merchandising and marketing by a salesperson in a deli/bakery. Evaluates product information for cheeses, meats and prepared foods for a deli/bakery.

**316-183 Food Production for Vegetables and Potatoes - 2 Crs.** Applies the basic techniques involved with vegetable, potato and breakfast cookery preparation. Focuses on the student's conversion of recipes, requisition of supplies and preparation of food. Students operate large and small food production equipment. Develops strategies to apply safety and sanitary methods of food production.

**316-184 Food Production for Pastas, Grains and Breakfast Cookery - 2 Crs.** Applies the basic techniques involved with potatoes, grains, legumes and breakfast cookery preparation. Focuses on the student's conversion of recipes, requisition of supplies and preparation of food. Students operate large and small food production equipment. Develops strategies to apply safety and sanitary methods of food production.

**316-185 Food Production for Stocks and Soups - 2 Crs.** Applies the basic techniques involved with soup and sauce preparation: stocks, thickening agents, clear soups, cream soups and grand sauces and their derivative sauces.

**316-186 Food Production for Sauces and Specialty Soups - 2 Crs.** Applies the advanced techniques involved with sauces and stock preparation. Focuses on special dietary guidelines of sauces. Analyzes the importance of convenience products used in making sauces and stocks.

**316-187 Food Production for Cold Food - Salads - 2 Crs.** Develops skills in preparing salads, dressings, cold sandwiches and fillings that appeal to the eye and palate. Focuses on the student's conversion of recipes, requisition of supplies and preparation of food. Students operate large and small food production equipment. Develops strategies to apply safety and sanitary methods to food production.

**316-188 Food Production for Cold Food - Sandwiches, Desserts, Salads and Dressings - 2 Crs.** Develops skills in preparing salads, dressings, cold sandwiches and fillings that appeal to the eye and to the palate. Focuses on student's conversion of recipes, requisition of supplies and preparation of food. Students operate large and small food production equipment. Develops strategies to apply safety and sanitary methods to food production.

**316-189 Food Production for Meat, Fish and Poultry - 2 Crs.** Develops skills in preparing meat, fish and poultry products. Students convert recipes, requisition supplies, integrate safety and sanitation principles in food preparation, and demonstrate dry- and moist-heat cooking methods using standardized and developed recipes.

**316-190 Food Production for Hot Sandwiches, Deli and Short-Order Cookery - 2 Crs.** Develops skills in preparing a variety of hot sandwiches and sandwich short orders. Also develops skills to cook luncheon foods to order.

**316-192 Restaurant Experience - 3 Crs.** Students work with teams to develop menus, plan strategies and operate a student-run restaurant. Other subjects covered included recipe development, service training, financial management and operational management.

**404-325 Automotive Fundamentals - 3 Crs.** Explores the occupations and environments, equipment and tools, safety practices, and service information used within the automotive industry. Students gain skills in entry-level vehicle maintenance procedures. This course is for Automotive Technician students only.

**404-326 Automotive Brakes - 4 Crs.** Applies principles of operation to brake systems, identifies brake system components and their operating characteristics and develops skills needed to diagnose and repair brake systems. This course is for Automotive Technician students only. (Prerequisite: 404-325 Automotive Fundamentals)

**404-327 Steering and Suspension - 4 Crs.** Teaches the theory and operation of steering and suspension systems with hands-on practice in a lab setting to gain the skills needed to diagnose and repair steering and suspension systems. This course is for Automotive Technician students only. (Prerequisite: 404-325 Automotive Fundamentals)

**404-328 Electrical and Electronic Systems 1 - 3 Crs.** Develops the skills needed to diagnose, service, and repair electrical and electronic systems beginning with starting and charging systems, lighting systems and body control systems. Electrical and Electronic Systems 2 will cover driver information systems, horn systems, wiper/washer systems, heated glass and seat systems, electric motor accessory systems, supplemental restraint systems, cruise control systems, anti-theft systems, and radio systems. This course is for Automotive Technician students only. (Prerequisites: 404-325 Automotive Fundamentals; 404-390 Electricity for Technicians)

**404-329 Electrical and Electronic Systems 2 - 3 Crs.** Develops the skills needed to diagnose, service and repair electrical and electronic systems used in today's automobiles. This course starts where Electrical and Electronic Systems 1 course left off. The systems covered in this course are driver information systems, horn and wiper systems, electric motor accessory systems, heated glass and seat systems, supplemental restraint systems, cruise control systems, anti-theft systems, and radio systems. This course is for Automotive Technician students only. (Prerequisite: 404-328 Electrical and Electronic Systems 1)

**404-330 Automotive Engine Fundamentals - 2 Crs.** Develops the skills needed to diagnose (not repair) engine mechanical faults that can lead to engine performance concerns, such as misfire, running rough, lack of power, and/or no start. Engine Repair (404-333) reviews the diagnosis covered in this course and expands upon it to include diagnosis of noise and fluid leak/consumption faults and incorporates the repair of all engine mechanical faults. This course is for Automotive Technician students only. (Prerequisite: 404-325 Automotive Fundamentals)

**404-331 Ignition Systems - 2 Crs.** Develops the skills needed to diagnose, service and repair ignition systems used on modern automotive engines. This course is for Automotive Technician students only. (Prerequisites: 404-329 Electrical and Electronic Systems 2; 404-330 Automotive Engine Fundamentals)

**404-332 Fuel Systems - 2 Crs.** Develops skills needed to diagnose, service, and repair fuel injection, air induction, and exhaust systems used on modern automobiles. Focuses on gasoline fuel injection, although similarities and differences to diesel fuel injection are explored. This course is for Automotive Technician students only. (Prerequisite: 404-331 Ignition Systems)

**404-333 Engine Repair - 5 Crs.** Develops the skills needed to diagnose, service and repair automotive gasoline internal combustion engines in accordance with vehicle manufacturer's procedures and specifications. Focuses on engine repair, not engine rebuilding. This course is for Automotive Technician students only. (Prerequisite: 404-330 Automotive Engine Fundamentals)

**404-337 Automatic Transmission - 4 Crs.** Focuses on skills needed to diagnose and repair automatic transmissions. Students are exposed to a variety of transmissions throughout a range of manufacturers through primarily a lab-based class where live work is the main learning tool. This course is for Automotive Technician students only. (Prerequisite: 404-341 Engine Performance)

**404-338 Automotive Drivetrain - 4 Crs.** Develops the skills needed to diagnose and repair automotive drivetrains. This is primarily a lab-based class and live work is the primary teaching tool. Exposes students to a variety of transmissions throughout a range of manufacturers. This course is for Automotive Technician students only. (Prerequisite: 404-329 Electrical and Electronic Systems 2)

**404-339 Advanced Chassis Systems - 2 Crs.** Develops skills needed to diagnose and repair automotive antilock brake systems, electronic steering systems and electronic suspension systems on various makes and models. This course is for Automotive Technician students only. (Prerequisites: 404-326 Automotive Brakes; 404-327 Steering and Suspension; 404-329 Electrical and Electronic Systems 2)

**404-340 Light-Duty Diesel Engine Operation - 2 Crs.** Introduces design and operating characteristics of light-duty diesel fuel systems. Mechanical and electronic fuel systems of various makes are covered, with the focus on electronic controlled fuel systems. Lab work includes identification of systems, testing, and diagnosis of symptoms. This course is for Automotive Technician students only. (Prerequisite: 404-341 Engine Performance)

**404-341 Engine Performance - 4 Crs.** Develops the skills needed to diagnose, service and repair engine performance faults. Examines On-Board Diagnostic systems which monitor ignition, fuel, EGR, EVAP and other systems that can affect vehicle emissions. Students diagnose and repair customer concerns involving symptoms with or without diagnostic trouble codes in the powertrain control module system. This course is for Automotive Technician students only. (Prerequisite: 404-332 Fuel Systems)

**404-342 Climate Control Systems - 3 Crs.** Develops the skills needed to diagnose, service and repair automotive climate control systems including the air conditioning (refrigeration) system ventilation system, and engine cooling/comfort heating system. Incorporates state and federal refrigerant handling certification testing. This course is for Automotive Technician students only. (Prerequisite: 404-329 Electrical and Electronic Systems 2)

**404-390 Electricity for Technicians - 2 Crs.** Introduces the basics of electricity that are applied in the automotive setting. Electrical theories are discussed, building a foundation for future automotive courses. Students apply skills involving electrical theories, electrical components, wiring and circuit diagrams and testing equipment. This course is for Automotive Technician students only.

**410-301 Power Tool Use and Safety - 1 Cr.** Introduces the use, maintenance and related safety practices of both portable and stationary power tools common to the building trades industry.

**410-302 Advanced Roof Framing - 1 Cr.** Introduces students to principles of roof layout and framing of complex equal and unequal pitch roofs. Emphasis is on gable and hip roofs and conventional framing. Previous roof framing and layout experience is encouraged.

# COURSE DESCRIPTIONS (CONT.)

**410-303 Estimating and Scheduling for Building Trades - 1 Cr.** Introduces the basic principles of estimating construction projects. Students perform material take-offs and perform calculations to determine quantities, labor allocations, equipment needs, areas and volumes.

**410-304 Cabinet Making Basics - 2 Crs.** Introduces the basic methods of cabinet construction including layout, design, materials, joinery, special accessories, applications and installations. Students should have power tool experience prior to taking this course.

**410-305 Advanced Stair Construction - 1 Cr.** Introduces students to layout methods and construction practices as they relate to construction of basic and complicated staircases. Instruction will be based on both theoretical and hands-on applications. Previous stair layout and construction experience is encouraged.

**410-306 Wisconsin Uniform Dwelling Code - 1 Cr.** Introduces students to the Wisconsin Uniform Dwelling Code as it relates to residential and light commercial construction. Students investigate different building applications and apply proper building regulations utilizing the code.

**410-307 Construction Measurement and Layout - 1 Cr.** Applies trade-related measurement and layout practices to field applications. Students demonstrate use of measurement and layout tools in both lab and field applications. Discusses proper utilization of laser equipment for layout.

**410-311 Construction Trades Blueprint Reading - 1 Cr.** Introduces the skills required to read and interpret building trade-related blueprints. Incorporates sketching, interpretation of symbols and line identification. Provides experience in reading plans in both residential and light commercial construction, as well as interpreting specification.

**410-456 Rigging for Building Trades - .45 Cr.** Introduces proper methods for safely securing equipment and materials for transporting, lifting and mobilizing. Emphasizes SAFE practices. Examines rigging equipment and demonstrates applications. Introduces crane safety and signaling.

**410-531 ABC Carpentry 1 - 2 Crs.** Introduces students to safety, math, hand and power tools, various building materials, fasteners and adhesives. Must be a state-contracted apprentice to enroll in this course.

**410-532 ABC Carpentry 2 - 2 Crs.** Examines floor, wall and roof framing, as well as windows and exterior doors. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-531 ABC Carpentry 1)

**410-533 ABC Carpentry 3 - 2 Crs.** Introduces the apprentice to site layout, concrete and reinforcing materials, as well as the installation of reinforced concrete, foundations and flatwork. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-532 ABC Carpentry 2)

**410-534 ABC Carpentry 4 - 2 Crs.** Explains the handling and placing of concrete and introduces the apprentice to field-built and patented-form systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-533 ABC Carpentry 3)

**410-535 ABC Carpentry 5 - 2 Crs.** Provides students with training in exterior finishing and roofing application, thermal and moisture protection, and basic stair construction, as well as metal studs and drywall

installation and finishing. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-534 ABC Carpentry 4)

**410-536 ABC Carpentry 6 - 2 Crs.** Introduces the apprentice to areas of interior finish work; interior doors; suspended ceilings; window, door, floor and ceiling trim; and cabinets. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-535 ABC Carpentry 5)

**410-537 ABC Carpentry 7 - 2 Crs.** Expands the apprentice's understanding of previously studied materials through an in-depth study of advanced floor, wall, stair and roof systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-536 ABC Carpentry 6)

**410-538 ABC Carpentry 8 - 2 Crs.** Introduces student to project supervision and management including organizational and people-related skills, job site organization tasks, time management, as well as introduction to metal buildings and light equipment. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 410-537 ABC Carpentry 7)

**410-557 Estimating and Scheduling for Building Trades - .75 Cr.** Introduces the elements of manual take-off as related to residential construction. Students create material take-off sheets; calculate quantities and price materials to establish a total project material cost; develop a construction schedule and generate an estimate of project labor costs. Blueprint reading experience is beneficial. An architectural scale and calculator are required.

**413-103 Commercial Drivers License (CDL) Preparation - 1 Cr.** Prepares students for taking the written portion of the Class A Commercial Driver's License test. Students, upon completion, will take the written test at the Department of Motor Vehicles test center to acquire the Instruction Permit (temps). The course is restricted to students enrolled in the Electrical Power Distribution program 31-413-2.

**413-191 Industrial Electrical Safety and Maintenance - 2 Crs.** Explores electrical theory and safety as it relates to maintenance, repair and troubleshooting of equipment found in an industrial/commercial setting. Topics include basic electrical theory, safety, symbols, test equipment, motor controls and electrical circuits. Knowledge of electrical concepts helpful.

**413-307 Electrical Theory and Safety 1 - 3 Crs.** Introduces students to basic electrical theory involving alternating and direct current circuits. Students will determine unknown electrical quantities in single-phase electrical circuit schematics. Must be an Electrical Power Distribution program student. (Corequisites: 413-309 Line Technician 1; 413-310 Line Technician 2)

**413-309 Line Technician 1 - 5 Crs.** Provides practical hands-on training, modeling first-year apprentice employment. Introduces pole climbing techniques. Covers safety policies/procedures and PPE. Provides hands-on experience in the design and construction of single-phase power distribution systems. Introduces operation of digger-derrick trucks and bucket trucks. Must be an Electrical Power Distribution program student. (Corequisites: 413-307 Electrical Theory and Safety 1; 413-310 Line Technician 2)

**413-310 Line Technician 2 - 5 Crs.** Provides practical hands-on training, modeling second-year apprentice employment. Provides hands-on experience in maintaining and constructing of single-phase electrical power systems, concentrating on primarily 600-volt and below utility work. Transformer settings will be constructed and designed. Grounding for personal protection will be performed. Must be an Electrical Power Distribution program student. (Corequisites: 413-307 Electrical Theory and Safety 1; 413-309 Line Technician 1)

**413-311 Line Technician 3 - 5 Crs.** Provides practical hands-on training, modeling third-year apprentice employment. Provides hands-on experience in maintaining and constructing of three-phase electrical power systems, bringing together the equipment that make up a distribution system from the substation to the customer. Three-phase lines will be constructed and retired. Grounding for personal protection and rescue procedures will be performed. Must be an Electrical Power Distribution program student. (Prerequisites: 413-309 Line Technician 1; 413-310 Line Technician 2. Corequisites: 413-312 Line Technician 4; 413-317 Electrical Theory and Safety 2)

**413-312 Line Technician 4 - 5 Crs.** Provides practical hands-on training, modeling fourth-year apprentice employment. Provides hands-on experience in maintaining and constructing of transmission electrical systems. Three-phase banking principles and URD systems will be focused on. Students will bring together the entire electrical system from generation to the customer. Exit assessment, a college requirement will be performed. (Prerequisites: 413-309 Line Technician 1; 413-310 Line Technician 2. Corequisites: 413-311 Line Technician 3; 413-317 Electrical Theory and Safety 2)

**413-317 Electrical Theory and Safety 2 - 3 Crs.** Introduces students to advanced electrical theory involving alternating and direct current circuits. Students determine unknown electrical quantities in multi-phase electrical circuits. Must be an Electrical Power Distribution program student. (Prerequisites: 413-309 Line Technician 1; 413-310 Line Technician 2. Corequisites: 413-311 Line Technician 3; 413-312 Line Technician 4)

**413-326 Introduction to PLC - 1 Cr.** Studies the theory of operation, applications, installation, programming techniques, interfacing and troubleshooting of programmable controllers for industry. Programming instructions include internal relays, timers, counter, math functions and relations.

**413-327 Advanced PLC - 1 Cr.** Applies basic concepts of PLC operations, applications, programming, interfacing and troubleshooting as they relate to complex PLC applications. (Prerequisite: Previous experience with PLCs and dean consent or completion of 413-326 Introduction to PLC)

**413-350 Beginning Electrical Concepts - 3 Crs.** Provides an overview of the electrical industry with an emphasis on fundamental electrical theory. Basic electricity is explored through concepts of DC electricity. Focuses on the electronic theory, voltage, amperage, resistance, Ohm's law and series/parallel circuits. Must be an Electricity program student. (Prerequisite: Completion of, concurrent enrollment, or Advanced Standing in 804-106 Introduction to College Mathematics or 804-107 College Mathematics)

**413-351 Advanced Electrical Concepts - 2 Crs.** This course is a continuation of 413-350 Beginning Electrical Concepts. Provides AC theory, inductance, capacitance and series-parallel circuits, single- and three-phase motors, transformers and circuits. Must be an Electricity program student. (Prerequisites: 413-350 Beginning Electrical Concepts; 804-113 College Technical Mathematics 1A)

**413-355 Residential and Commercial Wiring Concepts - 3 Crs.** Develops the skills and concepts necessary for planning and installing electrical equipment in residential and commercial occupancies. Students explore the uses of raceways, conductors, boxes and power distribution equipment in residential and commercial work. Must be an Electricity program student. (Prerequisites: 413-363 OSHA Safety Construction Trades. Completion of or concurrent enrollment in 413-360 Introduction to National Electrical Code)

**413-360 Introduction to National Electrical Code - 2 Crs.** Provides an introduction to the uses and applications of the state and national electrical codes. Students examine standard definitions, enforcement issues and the code-making cycle. Focuses on electrical installations to determine compliance with the state and national electrical codes. Must be an Electricity program student.

**413-361 Intermediate National Electrical Code - 2 Crs.** Examines standards and procedures used by electricians in determining requirements for electrical installations. Focuses on the process of how the code is used in making decisions and how different occupancies, such as residential, commercial or industrial, affect the electrical installation process. Must be an Electricity program student. (Prerequisite: 413-360 Introduction to National Electrical Code)

**413-363 OSHA Safety Construction Trades - 1 Cr.** Introduces OSHA policies, procedures and standards as well as construction safety issues. Emphasizes using the OSHA regulations as a guide to working safely on various construction sites and in recognizing potential hazards. Upon successful completion, the student will receive an OSHA construction safety and health 10-hour course card. Must be an Electricity program student.

**413-365 Basic Motor Controls - 3 Crs.** Continues the investigation of industrial electricity by introducing more complex theory and techniques. Focuses on timers, control devices, motors and PLCs. Students design control circuits, program PLCs and wire complex control circuits. Must be an Electricity program student. (Prerequisite: Completion of or concurrent enrollment in 413-380 Industrial Wiring Concepts)

**413-368 Intermediate NEC - 1 Cr.** Investigates current regulations defined in the current National Electrical Code (NEC). Students will apply regulations to various work-related conditions.

**413-369 Electrical Maintenance and Troubleshooting - 1 Cr.** Introduces the maintenance and troubleshooting practices related to electrical systems and devices common to residential applications. Students utilize electrical test equipment to evaluate system status and practice safe system maintenance and repair.

**413-370 Construction Trades Blueprint Reading - 2 Crs.** Develops skills in interpreting construction blueprints by categorizing elements of plans by view, size, shape and symbol. Focuses on the essential elements of residential and commercial plans. Students integrate basic blueprint reading skills with the construction process. Must be an Electricity program student. (Prerequisite: Completion of or concurrent enrollment in 413-360 Introduction to National Electrical Code)

**413-371 Electrical Estimating for Construction Trades - 1 Cr.** Investigate construction blueprints and perform material, equipment and labor takeoffs to determine project costs. Students work mainly in a manual take-off mode. Students are required to have previous blueprint reading experience.

**413-372 Industrial Electrical Code - 1 Cr.** Investigates the current National Electrical Code as it relates to industrial and commercial facilities and construction. Suggested for maintenance and repair technicians as well as plant electricians.

**413-373 Introduction to NEC - Construction Trades/Apprenticeship - 1 Cr.** Investigates the current National Electrical Code. Students will learn to move through the Code Book identifying various topics and sections. Emphasis is on applying basic applications, not for continuing education units.

**413-374 Advanced NEC - Construction Trade Apprentices - 1 Cr.** In-depth investigation of the current national electrical code applying real-life field applications. An in-depth analysis of specific code regulations, not for continuing education units. Previous Code training required.

**413-375 Electrical Blueprint Reading for Construction Trades - 1 Cr.** Introduces the basic elements of construction blueprint reading with major emphasis on interpretation of electrical design and components.

**413-380 Industrial Wiring Concepts - 3 Crs.** Introduces the features and functions of electrical equipment in an industrial setting. Students build the skills required to interpret line diagrams and use them to wire control circuits. Emphasizes control circuits most commonly found in a manufacturing setting. Must be an Electricity program student.

**413-381 Intermediate NEC/Trades - 2 Crs.** Continues more in-depth investigation of the National Electrical Code as it relates to the building trades. Emphasizes code application as it relates to various building practices. Previous NEC experience is suggested.

**413-383 NEC Update Review - 1 Cr.** Investigates the current electrical code through classroom review. Identifies changes to the current code. Consult with your instructor for CEU credit.

**413-385 Electrical Fabrication - 2 Crs.** Introduces the methods and practices used to build supports for electrical equipment and apparatus. Methods for mounting electrical equipment, supports and related devices to various surfaces are examined through the use of fastening systems and hardware. Must be an Electricity program student. (Prerequisite: 413-355 Residential and Commercial Wiring Concepts)

**413-386 Trends in Electricity - 1 Cr.** Explores current trends and recent developments in residential and commercial electricity. Trends change based on current events within the industry. Students focus on code, enforcement issues, new materials, equipment and techniques surrounding the new developments. Students apply their learning in hands-on activities. Must be an Electricity program student. (Prerequisite: 103-159 Computer Literacy - Microsoft Office)

**413-390 Industrial Electricity 1 - 2 Crs.** Focuses on fundamental principles of electricity, DC and AC motors, reading electrical diagrams, and identifying electric symbols and components. Students operate basic electrical test equipment. Emphasizes troubleshooting and electrical safety.

**413-392 Journeyman Electrical Test Review - 1 Cr.** Provides students with up-to-date code and theoretical information in preparation for completion of the journeyman exam.

**413-393 Journeyman/Masters Electrical Test Review - 1 Cr.** Provides students with code and theory in preparation for the state journeyman or masters electrical exam. This course is approved for 36 hours of state CEUs. Consult your instructor at the start of the class for CEU verification.

**413-394 Basic Programmable Logic Controls - 2 Crs.** Studies the theory of operation, applications, installation, programming techniques, interfacing and troubleshooting of programmable controllers for industry. Programming instructions include internal relays, timers, counters, math functions and relations.

**413-395 Masters Electrical Test Review Online - 1 Cr.** Provides students with code and theory information in preparation for completion of the journeyman exam in an online format.

**413-405 Electrical Code Update - .60 Cr.** Examines national and state electrical codes using the National Electrical Code book. Covers residential, commercial, manufacturing and inspection application; construction installation; motor application services; and review of sample state certification exam. This course is approved for CEU training.

**413-500 OSHA 10 - Trades Safety - .5 Cr.** Introduces OSHA policies, procedures and standards. Emphasizes OSHA regulations as a guide to working safely on various construction sites and in recognizing potential hazards. Satisfies the 10-hour OSHA safety requirement for the 1926 Construction Industry Code.

**413-540 ABC Construction Electrician 1 - 2 Crs.** Introduces students to electrical safety with a special emphasis on OSHA requirements, National Electrical Code, blueprint reading, residential wiring, hand-bending of conduit and DC electrical theory. Must be a state-contracted apprentice to enroll in this course.

**413-541 ABC Construction Electrician 2 - 2 Crs.** Continues the studies of electrical safety with a special emphasis on OSHA requirements, National Electrical Code, blueprint reading, residential wiring, hand-bending of conduit and DC electrical theory. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-540 ABC Construction Electrician 1)

**413-542 ABC Construction Electrician 3 - 2 Crs.** Introduces AC voltage: how it applies to magnetism; electrical symbols; line diagrams; current design and protection of circuits, motor controls, capacitance and inductive circuits, transformers, blueprints, and RC and RL time constants. Students continue studies in Safety and National Electrical Code with emphasis on grounding, over-current protection and box fill. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-541 ABC Construction Electrician 2)

**413-543 ABC Construction Electrician 4 - 2 Crs.** Continues the study of AC voltage: how it applies to magnetism; electrical symbols; line diagrams; current design and protection of circuits, motor controls, capacitance and inductive circuits, transformers, blueprints, and RC and RL time constants. Students continue studies in Safety and National Electrical Code with emphasis on grounding, over-current protection and box fill. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-542 ABC Construction Electrician 3)

# COURSE DESCRIPTIONS (CONT.)

**413-544 ABC Construction Electrician 5 - 2 Crs.** Challenges students into deeper studies in the National Electrical Code, introducing load calculations, conductor selection, motor calculations and HVAC systems. Continues to stress the requirements of safety on the job site through material provided by ABC. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-543 ABC Construction Electrician 4)

**413-545 ABC Construction Electrician 6 - 2 Crs.** Continues investigations in the National Electrical Code, introducing load calculations, conductor selection, motor calculations and HVAC systems. Stresses the requirements of safety on the job site through material provided by ABC. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-544 ABC Construction Electrician 5)

**413-546 ABC Construction Electrician 7 - 2 Crs.** Examines the areas of high voltage; advanced controls; and practical applications of lighting, fire alarm systems, heat trace and freeze protection paralleling National Electrical Code requirements in these areas with practical applications of installation through text and lab. Students focus on job site safety with OSHA standards. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-545 ABC Construction Electrician 6)

**413-547 ABC Construction Electrician 8 - 2 Crs.** Continues examining the areas of high voltage; advanced controls; and practical applications of lighting, fire alarm systems, heat trace and freeze protection paralleling National Electrical Code requirements in these areas with practical applications of installation through text and lab. Students focus on job site safety with OSHA standards. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-546 ABC Construction Electrician 7)

**413-548 ABC Construction Electrician 9 - 2 Crs.** Challenges students to test their ability to reference the National Electrical Code to prepare for the state journeyman exam. Introduces voice, data and video cabling. Compares motor control systems such as relay logic and PLC logic with practical applications. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-547 ABC Construction Electrician 8)

**413-549 ABC Construction Electrician 10 - 2 Crs.** Expands student knowledge through in-depth examination of the National Electrical Code to prepare for the state journeyman exam. Introduces voice, data and video cabling. Compares motor control systems such as relay logic and PLC logic with practical applications. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-548 ABC Construction Electrician 9)

**413-594 Electrical Line Worker Apprentice 1 - 4.5 Crs.** Introduces ground work: construction, operation, maintenance, safety, first aid, public relations, overhead line layout assistance, rigging and study construction specifications. Students are instructed in climbing poles and working with an aerial device on non-energized poles, vehicle operation, repair/maintenance of materials, tools, equipment, new construction on de-energized lines and tree trimming. Must be a state-contracted apprentice to enroll in this course.

**413-595 Electrical Line Worker Apprentice 2 - 4.5 Crs.** Includes a brief review of Electrical Line Worker Apprentice 1. Students examine concepts of power factor, reactive A/C electrical circuits, concepts and fundamentals of underground modular equipment and troubleshooting underground distribution. Explores operation of hotline underground distribution tools and understanding of distribution electrical code. Trig functions are extensively

used. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 413-594 Electrical Line Worker Apprentice 1 or test out)

**419-105 Introduction to Pneumatic and Programmable Logic Controllers - 2 Crs.** Introduces fundamentals of pneumatics and electrical controls with application to HVAC systems. Students receive hands-on experience designing, building and operating pneumatic and electro-pneumatic circuits using computer simulation software, pneumatic trainers, relay logic and PLC trainers.

**420-520 Mold Making - 1 Cr.** Introduces Tool and Die Making apprentices to mold making. Explores construction principles, processes and basic molding applications. Emphasizes plastic injection molding. Must be a state-contracted apprentice to enroll in this course.

**420-561 Jigs and Fixtures - .5 Cr.** Introduces basic theory and skills of jig and fixture making. Must be a state-contracted apprentice to enroll in this course.

**420-563 Machine Technology - 1 Cr.** Includes principles and nomenclature of the tool and die industry. Emphasizes terminology, function and operation of basic machine tools. Covers measuring tools and layout tools used in tool making. Must be a state-contracted apprentice to enroll in this course.

**420-565 Computer Numerical Control - 1.5 Crs.** Introduces manual Fanuc-Haas programming controlling a three-axis machining center. Students receive a solid background in numerical control theory such as axis designation, measuring and location systems, formats, advantages and disadvantages of NC and CNC. Students work with tape format reading, tape preparation and disk storage, and they write several programs using computers, the CNC machines and tape to produce the part. Must be a state-contracted apprentice to enroll in this course.

**420-571 Sinker/Wire EDM - 1.5 Crs.** Introduces students to operation of EDM wire metal cutting machines. Students learn basic machine components as well as layout, maintenance, calibration and programming. Must be a state-contracted apprentice to enroll in this course.

**420-572 3D CAD - 1.5 Crs.** Introduces basic SolidWorks parametric-based solid modeling techniques. Exercises will include creating and editing solid parts, assemblies and drawings. Top-down and bottom-up designing techniques will be applied to product design, sheet metal and mold tooling exercises. Exploded views, bill of materials, animations, finite element analysis and configurations will be created. Explores file conversions to and from Pro-Engineer, Unigraphics and AutoCAD software. Must be a state-contracted apprentice to enroll in this course.

**420-579 Introduction to Computer-Aided Manufacturing - 1 Cr.** Incorporates computer-aided manufacturing skills in the construction of geometry, developing a tool path, post processing, and basic dimensioning. Previous blueprint reading and computer numerical control programming is very helpful. Must be a state-contracted apprentice to enroll in this course.

**420-580 2D CAD - 1 Cr.** Introduces students to computer-aided drafting (CAD) using the latest AutoCAD software. Students develop skills in drawing setup and organization, as well as drawing and editing objects. Students create complex shapes, add dimensions and text, utilize display and layer controls, implement symbols, and plot drawings. No computer experience required, but a background in fundamental blueprint reading and/or drafting skills is recommended. Must be a state-contracted apprentice to enroll in this course.

**420-586 Die Making - 1 Cr.** Studies stamping die technology including piercing, blanking, bending and compound dies. Must be a state-contracted apprentice to enroll in this course.

**421-331 Welding Print Reading - 2 Crs.** Gives production welders a basic knowledge about the interpretation of drawings and manuals of the sort most frequently encountered in industry. Includes arrangement of views, dimensions and notes, sections, shop sketching, welding symbols, and various welding prints used in the immediate area.

**421-555 Blueprint Reading - 1 Cr.** Covers the basics of blueprint reading for the tool and die trade. Emphasizes the student's understanding of orthographic projection, pictorial drawings dimensioning, tolerancing, sectioning, thread representation and sketching. Must be a state-contracted apprentice to enroll in this course.

**422-505 Metallurgy - 1 Cr.** Introduces students to the principles and processes of Metallurgy. Students are exposed to the manufacture of iron and steel, alloying elements, material properties, heat treating, quenching, and tempering for both ferrous and nonferrous metals and alloys. Both destructive and nondestructive testing of metal products are introduced. Must be a state-contracted apprentice to enroll in this course.

**427-342 Isometric Drawing - 1 Cr.** Introduces students to isometric drawing. Gives students the ability to draw three-dimensional piping drawings used for plumbing. Designed for students with no isometric background. This course is designed for apprentices and licensed plumbers.

**427-350 Plumbing Applications - 1 Cr.** Examines a variety of real-life applications used in the plumbing trades and typically covered in paid-related instruction. Addresses the how and why behind joints and connections, rigging and signaling, hydraulics and pneumatics, plumbing and the environment, gas pipe applications and applied electricity for plumbers. This course is designed for apprentices and licensed plumbers.

**427-357 Plumbing Blueprint Reading - 1 Cr.** Provides students with skills necessary to read and interpret blueprints as they relate to the plumbing trade. This course is designed for apprentices and licensed plumbers.

**427-369 Plumbing Service and Repair - 2 Crs.** Provides students with academic and hands-on experiences needed to perform plumbing service and repair tasks. Emphasis is placed on responsible use of tools and equipment, clogged drains, garbage disposers, water treatment equipment, water closets, urinals, flush valves, cold-weather plumbing problems, water systems, pumps and faucets. This course is designed for apprentices and licensed plumbers.

**427-510 Apprentice Transit and Level - .75 Cr.** Provides an evening school course for indentured apprentices to fulfill their unpaid related instruction requirement. The course provides a basic familiarity with the builders transit/level, the recording of leveling notes, the use of information on a plan to lay out work on the job, and a review of related math procedures. This course is designed for apprentices and licensed plumbers.

**427-512 Plumbers Print Reading - Self-Directed - .7 Cr.** Equips students with skills necessary to read and interpret blueprints as they relate to the plumbing trade. Students meet formally two to three times and answer questions in modules in the course handbook. Coursework needs to be completed in eight weeks. This course is designed for apprentices and licensed plumbers.

**427-513 Private Water Supply, Self-Directed - .75 Cr.** Introduces students to the concepts of water sources, cycles and supply distribution systems. Students explore types of wells, safety, electrical supply precautions, pressurized systems and controls. Discussion centers on well design, well construction and system services. This course is designed for apprentices and licensed plumbers.

**427-558 Plumbing Systems Evolution - .7 Cr.** Examines the development of today's plumbing systems and the historical influences and changes that have occurred. Strong emphasis is placed on health considerations in the influence of various diseases. This course is designed for apprentices and licensed plumbers.

**427-559 Plumbing History, Self-Directed - .7 Cr.** Investigates the history of plumbing through self-directed study using the World Wide Web. Students examine the development of plumbing systems from 4000 B.C. to present and complete question modules in the workbook. This course is designed for apprentices and licensed plumbers.

**427-560 Isometric Drawing Basic for Plumbers - .9 Cr.** Introduces the student to isometric drawing. Students draw three-dimensional piping drawings used for plumbing. The class is designed for the student with no isometric background. This course is designed for apprentices and licensed plumbers.

**427-561 Sanitary Drain and Vent Systems - 2 Crs.** Explores the drain, waste and vent portion of the plumbing code book. Apprentices use drawings and blueprints to apply the codes for installs of drain and vent systems. Must be a state-contracted apprentice to enroll in this course.

**427-562 Vents and Venting Systems - 2 Crs.** Continues the drain, waste and vent portion of the plumbing code book. Students use drawings and blueprints to understand how to apply the codes for installs of drain and vent systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-561 Sanitary Drain and Vent Systems)

**427-563 Drainage System Components - 2 Crs.** Introduces the water supply systems of the plumbing code book. Apprentices use drawings and blueprints to size the water piping for both residential and commercial applications. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-562 Vents and Venting Systems)

**427-564 Plumbing: Water Distribution - 2 Crs.** Focuses on the principles of math as they apply to water distribution in the plumbing trade. Provides skills to determine volumes as relevant to sizing, pitch of piping for the install of piping and basic algebra formulas. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-563 Drainage System Components)

**427-565 Private On-Site Wastewater Treatment Systems 1 - 2 Crs.** Instructs the private on-site waste systems of the plumbing code book. Apprentices examine different on-site wastes and size and draw both residential and commercial installs. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-564 Plumbing: Water Distribution)

**427-566 Private On-Site Wastewater Treatment Systems 2 - 2 Crs.** Continues instruction of private on-site wastewater treatment systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-565 Private On-Site Wastewater Treatment Systems 1)

**427-567 Plumbing: Advanced Topics - 2 Crs.** Reviews the drain, waste and vent systems, water supply systems and on-site waste systems. Apprentices also study plumbing materials for the various systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-566 Private On-Site Wastewater Treatment Systems 2)

**427-568 Plumbing Review - 2 Crs.** Prepares the apprentice for the state plumbing journeyman's exam. Apprentices review all plumbing systems and take a mock journeyman's plumbing exam. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 427-567 Plumbing: Advanced Topics)

**427-570 Drawing State-Approved Plumbing Plans - 1 Cr.** Investigate the process of drawing state-approved plumbing plans, from the first call to schedule the plan approval date, to what needs to be submitted to the state. Students draw two different state approvals; one for new and one for remodel construction. Students receive the information required to complete the state approval plan process. This course is designed for apprentices and licensed plumbers.

**427-586 Transit and Level for Plumbers - .75 Cr.** Provides opportunities for indentured apprentices to fulfill their unpaid related instruction requirement. Provides skills for using the builder's transit/level, recording of leveling notes, using information on a plan to lay out work on the job, and applying related math procedures. This course is designed for apprentices and licensed plumbers.

**435-521 Steamfitter Service 1 - 2 Crs.** Introduces the basic elements, troubleshooting, diagnostics and repair, including instruction on basic math, algebra and basic trigonometry. Students also learn the basics of blueprint reading, along with pipe and fitting basics. Introduces science principles related to steamfitter service. Must be a state-contracted apprentice to enroll in this course.

**435-522 Steamfitter Service 2 - 2 Crs.** Introduces basic elements, troubleshooting, diagnostics and repair providing instruction on advanced blueprint reading along with isometric drawing. Students use trigonometry to learn how to calculate piping offsets. Basic science principles include hydraulics, heat, temperature relationships, expansion and pressures and how they apply to the trade. Emphasizes repair and troubleshooting skills. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-521 Steamfitter Service 1)

**435-523 Steamfitter Service 3 - 2 Crs.** Covers instruction on the basics of steam, using already learned principles. Introduces steam industry terminology. Students explore one- and two-pipe steam heating systems, condensate drainage and the piping basics needed to make steam systems work correctly. Training is based on troubleshooting, dealing with controls, electrical basics and control systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-522 Steamfitter Service 2)

**435-524 Steamfitter Service 4 - 2 Crs.** Focuses on steam industry equipment. Students explore low- and high-pressure boilers, safety equipment and codes required for installations and operation of the systems. Emphasizes troubleshooting systems. Explores CSD-1 controls, safety devices code, training on the gas trains, combustion process and steam making processes. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-523 Steamfitter Service 3)

**435-525 Steamfitter Service 5 - 2 Crs.** Provides instructions on the basics of air conditioning and refrigeration starting with a review of the basic science principles already learned. Focuses on the basics of AC/R and refrigerants and their uses. Emphasizes electrical controls and safeties and their importance in the system. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-524 Steamfitter Service 4)

**435-526 Steamfitter Service 6 - 2 Crs.** Focuses on the expansion of the basic system into the more elaborate systems. Students break down the different types of compressors, condensers, metering devices, piping practices, basic operational pressures and temperatures. Explores CFC certification laws along with the federal certification exam for refrigerant recovery. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-525 Steamfitter Service 5)

**435-527 Steamfitter Service 7 - 2 Crs.** Focuses on the basics behind hydronic heating and cooling, including principles, definitions and sizing of systems. Students explore the different components to a system such as pumps, heating units, air separation equipment and piping layouts. Focuses on troubleshooting and repairing of the system components. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-526 Steamfitter Service 6)

**435-528 Steamfitter Service 8 - 2 Crs.** Focuses on different types of systems and ways to install the equipment to minimize problems. Students explore zoning of systems and radiant-type heating systems and introduce hydronic cooling and control systems. All service technicians are given a certification exam, which shows their competence to the industry. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-527 Steamfitter Service 7)

**435-570 Apprentice Steamfitting 1 - 2 Crs.** Includes instruction on basic math, algebra and basic trigonometry. Students learn the basics of blueprint reading, along with pipe and fitting basics. Introduces science principles pertaining to steamfitting. Must be a state-contracted apprentice to enroll in this course.

**435-571 Apprentice Steamfitting 2 - 2 Crs.** Provides instruction on advanced blueprint reading along with isometric drawing. Students use trigonometry to learn how to calculate piping offsets. Explores basic science principles including hydraulics, heat, temperature relationships, expansion and pressures, and how they apply in steamfitting. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-570 Apprentice Steamfitting 1)

**435-572 Apprentice Steamfitting 3 - 2 Crs.** Covers instruction on the basics of steam, using already learned science principles. Introduces terminology used in the steam industry. Students explore one- and two-pipe steam heating systems, condensate drainage (emphasizing steam trapping) and the piping basics needed to make steam systems work right. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-571 Apprentice Steamfitting 2)

**435-573 Apprentice Steamfitting 4 - 2 Crs.** Focuses on equipment used in the steam industry, from the heating equipment to industrial applications. Students examine low- and high-pressure boilers, safety equipment required to make boilers operate efficiently and safely and coverage of the codes required for installations and operation of the systems. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-572 Apprentice Steamfitting 3)

# COURSE DESCRIPTIONS (CONT.)

**435-574 Apprentice Steamfitting 5 - 2 Crs.** Provides instruction on the basics of air conditioning and refrigeration, starting with a review of the basic science principles already learned. Focuses on the basics of AC/R, explaining the most basic functions of the components needed for a system. Explores refrigerants and their uses. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-573 Apprentice Steamfitting 4)

**435-575 Apprentice Steamfitting 6 - 2 Crs.** Focuses on expansion of the basic system into the more elaborate systems that are in use today. Examines compressors, condensers and metering devices. Stresses importance of piping practices. Explores basic operational pressures and temperatures. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-574 Apprentice Steamfitting 5)

**435-576 Apprentice Steamfitting 7 - 2 Crs.** Focuses on the basics behind hydronic heating and cooling, including principles, definitions and sizing of systems. Students explore different components to a system like pumps, types of heating units, air separation equipment and piping layouts. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-575 Apprentice Steamfitting 6)

**435-577 Apprentice Steamfitting 8 - 2 Crs.** Focuses on different types of systems and reasons why they are piped in a particular manner. Students look at different ways to install the equipment to minimize problems, zoning of systems, radiant-type heating systems and hydronic cooling. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 435-576 Apprentice Steamfitting 7)

**435-578 Isometric for Building Trades - .9 Cr.** Introduces the concepts of three-dimensional drawing as it relates to plan views and hidden lines. Students develop the ability to interpret and draw isometric objects and plan views from isometric drawings.

**439-304 Jigs and Fixtures - 4 Crs.** Introduces jigs and fixtures as it pertains to the machining industry. Explores power workholding devices, modular tooling systems, hydraulics and pneumatics. Applies advanced tolerance-building and decision-making skills. Students set up and run CNC lathes, CNC mills and wire EDM to build multi-detailed assemblies. Students perform advanced grinding operations to produce close tolerance fits. (Prerequisites: 439-312 Machining Technologies; 439-313 Machining Technologies Applications; 444-350 Basic Programming)

**439-310 Basic Machining - 1 Cr.** Provides an overview of the machining industry with an emphasis on theory and safety of machine tool operation. Proof of tetanus shot required before the first day of class. (Corequisite: 439-311 Basic Machining Applications)

**439-311 Basic Machining Applications - 4 Crs.** Introduces students to machine tool operations of CNC milling machines, CNC lathes, grinders, saws and drill presses through the building of projects. Students use conversational programming. Proof of tetanus shot required before the first day of class. (Corequisite: 439-310 Basic Machining)

**439-312 Machining Technologies - 1 Cr.** Introduces students to the theory behind wire and sinker EDM machines and other advanced technology used in the machining, CNC and tool and die industry. Emphasizes quality and continuous improvement strategies used in industry to increase productivity and efficiency. Exposes students to global and cultural impacts on the industry.

(Prerequisites: 439-310 Basic Machining; 439-311 Basic Machining Applications. Corequisite: 439-313 Machining Technologies Applications)

**439-313 Machining Technologies Applications - 4 Crs.** Provides hands-on experience in basic wire and sinker EDM programming, setup and operation. Builds skill level with advanced machining and grinding operations while utilizing continuous improvement strategies to increase productivity and efficiency. Proof of tetanus shot required before the first day of class. (Prerequisites: 439-310 Basic Machining; 439-311 Basic Machining Applications. Corequisite: 439-312 Machining Technologies)

**439-325 Pierce and Blank Die Making - 1 Cr.** Introduces basic die making principles and theory to provide a basis for the construction of pierce and blank dies. (Prerequisites: 439-312 Machining Technologies; 439-313 Machining Technologies Applications. Corequisite: 439-326 Pierce and Blank Die Making Applications)

**439-326 Pierce and Blank Die Making Applications - 5 Crs.** Provides hands-on experience in the construction of pierce and blank dies. Students build, assemble and run a stamping die using various toolroom equipment. Develop skills in operating equipment including milling machines, surface grinders and CNC lathes. Computer-aided manufacturing is used to design a second die. (Prerequisite: 439-304 Jigs and Fixtures. Corequisite: 439-325 Pierce and Blank Die Making)

**439-327 Compound and Progressive Die Making - 1 Cr.** Focuses on the theory behind the construction of compound and progressive dies. Exposes students to team-building and problem-solving strategies used in industry. (Prerequisites: 439-325 Pierce and Blank Die Making; 439-326 Pierce and Blank Die Making Applications. Corequisite: 439-328 Compound and Progressive Die Making Applications)

**439-328 Compound and Progressive Die Making Applications - 5 Crs.** Provides hands-on experience in the construction of a compound and a progressive die. Students build, assemble and run a compound and a progressive die using various tool room equipment. Develop skills in operating equipment including milling machines, surface grinders, CNC mills and wire and conventional EDM machines. CNC software is used to construct tool paths needed to machine certain parts of the die. Students work in a group environment to construct the progressive die and use communication skills to work out problems that may arise. (Prerequisites: 439-325 Pierce and Blank Die Making; 439-326 Pierce and Blank Die Making Applications. Corequisite: 439-327 Compound and Progressive Die Making)

**439-335 Single-Cavity Mold Making - 1 Cr.** Introduces students to fundamental theory of single-cavity mold making construction. Emphasis is on plastic injection molding. (Prerequisites: 439-327 Compound and Progressive Die Making; 439-328 Compound and Progressive Die Making Applications. Corequisite: 439-336 Single-Cavity Mold Making Applications)

**439-336 Single-Cavity Mold Making Applications - 5 Crs.** Provides hands-on experience in the production of single-cavity molds. Students use CNC sinker EDM, CNC wire EDM, CNC lathes and mill machines as they produce the molds. These molds are set up and run in the injection molding machine. (Prerequisites: 439-327 Compound and Progressive Die Making; 439-328 Compound and Progressive Die Making Applications. Corequisite: 439-335 Single-Cavity Mold Making)

**439-337 Multi-Cavity Mold Making - 1 Cr.** Focuses on the theory of multi-cavity mold making construction.

Emphasis is placed on plastic injection molding. (Prerequisites: 439-335 Single-Cavity Mold Making; 439-336 Single-Cavity Mold Making Applications. Corequisite: 439-338 Multi-Cavity Mold Making Applications)

**439-338 Multi-Cavity Mold Making Applications - 5 Crs.** Incorporates the fundamentals of mold construction as they apply to mold making, emphasizing plastic injection molding. Students produce molds using the latest technological machines which include CNC sinker EDM, CNC wire EDM, CNC lathes and milling machines. These molds are set up and run in the injection molding machine on the lab floor, emphasizing the production of molds. (Prerequisites: 439-335 Single-Cavity Mold Making; 439-336 Single-Cavity Mold Making Applications. Corequisite: 439-337 Multi-Cavity Mold Making)

**439-398 Mold and Die Print Reading - 2 Crs.** Emphasizes the fundamentals of mold and die print reading for the tool and die making industry. Reviews basics of measuring systems and methods. Emphasizes orthographic and visual perception of drawings. Stresses areas of dimensioning, tolerancing, detail and assembly drawings.

**442-302 Introduction to Welding Processes 1 - 2 Crs.** Introduces students to welding safety and setup procedures appropriate to a welding shop environment. Students develop skills in designing joints, analyzing various welding processes and their applications on carbon, stainless steel and aluminum. Focuses on the welding processes of Gas Metal Arc Welding (GMAW) and Gas Tungsten Arc Welding (GTAW). Articulates with the one-year Welding Diploma program.

**442-304 Weld Certification Preparation - 1 Cr.** Provides information about welding certification with opportunity to practice welding techniques and metal preparation needed for welding certification tests. Learn welding codes and their requirements such as: ASW D1.1, ASME Section IX, D1.3, and API 1104. Learn what tests are required to satisfy the codes, and what needs to be in place to maintain company certifications.

**442-307 Introduction to Welding Process, Part A - 2 Crs.** Provides skill in oxy-fuel cutting and Shielded Metal Arc Welding (SMAW) in the flat and horizontal positions. Students apply safe welding standards to a variety of industrial applications on mild steel in a lab setting.

**442-308 Introduction to Welding Process, Part B - 2 Crs.** Provides skill in Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW) in the flat and horizontal positions. Students apply safe welding standards to a variety of industrial applications on mild steel, stainless steel and aluminum in a lab setting.

**442-309 Introduction to Welding Processes - 4 Crs.** Provides skill in oxy-fuel cuttings, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and Gas Tungsten Arc Welding (GTAW) in flat and horizontal positions. Students apply safe welding standards to a variety of industrial applications on different types of metals in a lab setting.

**442-310 Shielded and Gas Metal Arc Welding (SMAW/GMAW) - 4 Crs.** Provides skills using Gas Metal Arc Welding (GMAW) and Shielded Metal Arc Welding (SMAW) processes in all positions. Students use welding skills in a variety of industrial applications on carbon. Students perform welding operations in a lab setting. (Prerequisite: Completion of or concurrent enrollment in 442-309 Introduction to Welding Processes)

**442-313 General Welding - 2 Crs.** Develops skills in oxy-fuel welding and cutting, shielded metal arc welding, gas metal arc welding, gas tungsten arc welding and plasma cutting. Students practice safety precautions in handling, setup, maintenance and use of welding equipment while welding on steel, stainless steel and aluminum.

**442-314 Basic Welding 1 - 1 Cr.** Acquire a brief overview of the welding processes most widely used that include oxy-fuel, gas metal arc welding, shielded metal arc welding and gas tungsten arc welding processes.

**442-315 Gas Tungsten Arc Welding - 4 Crs.** Provides advanced GTAW skills that build upon the basic skills learned previously. Students will be welding on stainless steel and aluminum. Welding operations are performed in a lab setting applying a variety of industrial applications of out of position welding on plate and pipe. (Prerequisite: Completion of or concurrent enrollment in 442-310 Shielded and Gas Metal Arc Welding)

**442-316 Advanced Welding Techniques - 4 Crs.** Focuses on maintaining safety skills appropriate to a welding shop environment. Builds on skills acquired in prerequisite courses. Students perform welding operations on carbon steel, stainless steel and aluminum in practical, real-world situations. Introduces welding codes; welds are performed according to code criteria, with the option of being certified. (Prerequisite: Completion of or concurrent enrollment in 442-315 Gas Tungsten Arc Welding)

**442-322 Welding for Apprentices - .05 - 1 Cr.** Introduces students to welding safety and setup as it relates to a construction setting. Develops skills in oxy-fuel welding and cutting, arc and wire welding.

**442-331 Welding Print Reading - 2 Crs.** Gives production welders a basic knowledge about the interpretation of drawings and manuals of the sort most frequently encountered in industry. Includes arrangement of views, dimensions and notes, sections, shop sketching, welding symbols, and various welding prints used in the immediate area.

**442-345 Fabrication for Welders - 4 Crs.** Focuses on development of layout and fabrication skills through a sequence of exercises and a final project. Students use equipment including a CNC shear, CNC press brake and CNC plasma table.

**444-332 Introduction to Coordinate Measuring Machine (CMM) Programming - 2 Crs.** Introduces Brown and Sharpe Programmable CMM with PC-DMIS inspection software. Students receive hands-on exposure to Coordinate Measuring Machine programming techniques. Students will conduct laboratory experiments using the coordinate measuring machine. (Prerequisites: 439-398 Mold and Die Print Reading; 804-361 Occupational Math 2)

**444-333 Basics of Metrology - 1 Cr.** Introduces dimensional metrology with online exposure to various measurement techniques. Provides student with skills and knowledge of vernier calipers, dial calipers, depth micrometers, outside micrometers with both inch and metric scales, indicators, telescoping gages, sine bars, optical comparators, gage blocks, instruments for surface analysis, and coordinate measuring machines. Some concepts of geometric gaging and tolerancing are also developed as part of the coursework.

**444-339 Computer-Aided Machining (CAM) 2D - Surfcam - 2 Crs.** Introduces students to the 2D CAM environment. Students create simple 2D part drawings and apply related toolpaths to them using Surfcam software.

Students learn how a Computer Numerical Control (CNC) program is created for maximum efficiency of a machine tool, and also how to apply proper cutting feeds and speeds. Working knowledge of CNC programming language is desired.

**444-340 Computer-Aided Machining (CAM) 2D - Mastercam - 2 Crs.** Introduces students to the advanced dimensional (2D) Computer-Aided Machining (CAM) utilizing Mastercam software. Students run CAM software on a computer to generate a 2D CNC program. Students develop skills in the generation of 2D geometry; generation of 2D toolpath; CNC machine code generation; programming, editing and manipulation; speed and feed calculation; and optimization of programs for maximum efficiency. Working knowledge of CNC programming language is desired.

**444-341 Computer-Aided Machining (CAM) 3D - 3 Crs.** Demonstrates the methods of machining 3D geometry. Students apply cutting methods using various CAM software to machine desired parts. Students generate tool paths and analyze the posting. Experience with 2D desirable. (Prerequisite: 444-340 Computer-Aided Machining (CAM) 2D - Mastercam)

**444-345 Design for 3D Machining - 3 Crs.** Demonstrates the methods of constructing 3D geometry to be used for generating tool path. Students create geometry, create surfaces and analyze surfaces for dimensional accuracy and usability. Students create tool path and a machined part. Experience with 2D desirable.

**444-350 Basic Programming - 3 Crs.** Exposes manufacturing students to the field of manual programming of Computer Numerical Control (CNC) machine tools. Studies types of CNC controls, machinery, programming formats and basic terminology. Applies programming technique, print interpretation, applied math, computer skills and measuring techniques.

**444-351 Machining Center Programming - 4 Crs.** Exposes the manufacturing students to advanced manual programming of machining centers. Types of CNC controls, machinery, programming formats and basic terminology will be studied. Advanced programming techniques, print interpretation, applied math, computer skills and measuring techniques will be applied. Working knowledge of CNC Programming and CAM is helpful. (Prerequisite: 444-350 Basic Programming)

**444-360 Machining Center Operation - 4 Crs.** Develops an understanding of the complete operation of a three-dimensional machining center. Includes setup, fixturing, operation and troubleshooting of the program. (Prerequisite: 444-350 Basic Programming)

**444-370 Turning Center Operation - 4 Crs.** Exposes the manufacturing students to the field of turning center operation. Types of CNC communication, programming formats and basic terminology will be studied. Programming technique, print interpretation, applied math, computer skills and measuring techniques will be applied. (Prerequisite: 444-350 Basic Programming)

**444-371 Turning Center Programming - 4 Crs.** Applies the knowledge received in Computer Aided Machining 2D and Computer Aided Machining 3D to a practical application on a turning center and CNC chucker. Covers direct computer control, editing, and speed and feed control overwrite. Working knowledge of CNC programming and CAM desirable. (Prerequisite: 444-350 Basic Programming)

**444-380 EDM and Nonconventional Machining - 4 Crs.** Exposes the manufacturing students to the field of both

wire- and ram-type EDM and exposure to water jet, laser and punch press operations. Types of CNC communication, programming formats and basic terminology will be studied. Programming technique, print interpretation, applied math, computer skills and measuring techniques will be applied. Working knowledge of CNC programming and CAM desirable.

**455-455 Transition to Trainer, Your Role as a Journeyworker - .2 Cr.** Introduces students to the tools of a job-site trainer. Students explore the role of a journey worker/trainer, discover how to deliver hands-on training, and examine the process for giving useful feedback. Designed for completing apprentices.

**457-345 Metal Fabrication - 4 Crs.** Focuses on development of layout and fabrication skills through a sequence of exercises and a final project. Students use equipment including a CNC shear, CNC press brake and CNC cutting table. (Prerequisites: 103-159 Computer Literacy - Microsoft Office. Completion of or concurrent enrollment in 442-309 Introduction to Welding Processes; 804-360 Occupational Mathematics 1)

**457-346 Advanced Fabrication Techniques - 4 Crs.** Enhances metal fabrication skills and techniques by developing fixtures, programming CNC press brakes and lasers, and finishing, while making a variety of projects. (Prerequisite: 457-345 Metal Fabrication)

**457-347 Metallurgy - 2 Crs.** Provides instruction and information on the basic principles of metals. Explores the behavior of metals and the processes which affect them. Explores the most common metals used in industrial processes.

**457-348 Metal Cutting and Forming Processes - 3 Crs.** Develops knowledge of plasma, laser and water jet cutting systems and forming processes. Safety and maintenance are emphasized as students practice cutting techniques on projects. (Prerequisite: Completion of or concurrent enrollment in 804-360 Occupational Mathematics 1)

**461-321 Small Engine Maintenance and Repair - 1 Cr.** Introduces students to small engine repair and maintenance including an overview of small engine components, basic engine operation, operational systems, preventative maintenance and troubleshooting.

**462-301 DC/AC Electricity - 4 Crs.** Introduces practical DC/AC concepts including electrical quantities, components and measurement instruments for DC and AC circuits. Topics include DC/AC forms of current, circuit construction, voltage, resistance, capacitance, inductance and power. Emphasizes troubleshooting practices and uses computer technologies to enhance abstract theory. Students perform laboratory exercises and instrumentation testing to reinforce theoretical concepts.

**462-303 Hydraulics/Pneumatics Applications - 3 Crs.** Emphasizes forms of power transmission used in industry. Determines force and time capabilities for fluid power systems. Develops skills needed to determine directional control valves to use with hydraulic pumps and to select directional control valve components for use in pneumatic systems. Students diagram and build air relay logic circuits.

**462-305 Mechanical Skills for Technicians - 2 Crs.** Covers basic mechanical skills needed by a technician. Includes the use and care of hand tools and small power tools, drilling, tapping, removal of broken bolts and studs and helicoil insertion. Covers basic measuring tools and techniques. Includes type and use of fasteners, lubricants and adhesives used in repair and assembly of automated machines.



# COURSE DESCRIPTIONS (CONT.)

## **462-309 Industrial Control Systems - 4 Crs.**

Introduces students to the basic principles of physics specific to electro-mechanical systems. Explores basic process control theory, control loop characteristics, and sensor and signal-conditioning devices. Actual industrial controls, instrumentation and sensors are used in lab applications. Students integrate applications of system interfacing of digital, servo, electric and hydraulic systems through laboratory experimentation. (Prerequisite: 462-301 DC/AC Electricity)

## **462-311 Machine and Equipment Installation - 3 Crs.**

Introduces students to the standard applications of machine installation, leveling and setup. Covers procedures for the alignment of shafts, couplings and bearings for common industry equipment. Covers advanced materials not covered in 462-305. (Prerequisite: 462-305 Mechanical Skills for Technicians)

## **462-313 Blueprint/Schematic Reading - 2 Crs.**

Examines electrical and hydraulic/pneumatic schematics, component symbols and their application in the circuit. Develops skills to assemble basic electrical circuits from a schematic, assemble basic hydraulic/pneumatic circuits from a schematic and draw electrical/hydraulic circuits.

## **462-315 Microprocessor Applications - 3 Crs.**

Studies the hardware, software and operation of the microprocessor. Includes system architecture, microprocessors, number systems, visual basic language programming, memory organization, types of memory, interfacing and troubleshooting. (Prerequisite: 462-301 DC/AC Electricity)

## **462-317 Preventative/Predictive Maintenance - 3 Crs.**

Introduces students to troubleshooting and maintaining manufacturing systems with an emphasis on automated systems. Presents information on preventative/predictive maintenance procedures, lockout/tagout, rigging practices, and industry safety policies. Students design and create a preventative/predictive maintenance program for a given real-world industry setting in a team format.

## **462-319 Programmable Logic Controllers - 3 Crs.**

Studies the operation of the programmable logic controller (PLC) installation, interfacing operation, and programming. Students learn about PLCs connected to Windows-based PCs running state-of-the-art programming tools. Hardware, including various I/O modules, is studied for applications and capabilities. Electrical ladder logic provides the documentation and programming means. Students will write programs, load them into the PLC, troubleshoot any errors, and document the function and input/output of the control. (Prerequisite: 462-323 Semi-Conductors and Digital Electronics)

## **462-321 Power Transmission Systems - 3 Crs.**

Explores power transmission belts, belt problems, pulleys, gears, drives and variable speeds. Focuses on performing gear failure and bearing failure analysis, and vibration analysis related to component failures. (Prerequisite: 462-311 Machine and Equipment Installation)

## **462-323 Semi-Conductors and Digital Electronics - 3 Crs.**

Focuses on the theory and application of semi-conductors used in basic electronic circuits such as power supplies, amplifiers and logic circuit design. Emphasizes lab activities such as hands-on construction and testing of electronic circuits, including logic design, and use of laboratory equipment such as triggered oscilloscopes and digital multimeters. (Prerequisite: 462-301 DC/AC Electricity)

## **462-324 Integrated Manufacturing Center Project Planning - 2 Crs.**

Emphasizes project management processes, teamwork, problem solving and decision making. Integrates Industrial Maintenance Technician

students with Integrated Manufacturing students in the planning of an automated workcell project.

## **462-325 Robotics/Material Handling Operations - 3 Crs.**

Emphasizes the application and management of industrial robots and automated material-handling control system operation. Focuses on diagnosis and repair of operation errors, system shut-downs, and the relationship between system engineers and industrial maintenance technicians. (Prerequisites: 462-301 DC/AC Electricity; 462-319 Programmable Logic Controllers)

## **462-326 Industrial Safety - 2 Crs.**

Selects and uses industrial safety equipment as it relates to industrial manufacturing equipment. The IMC workcell area will be used to employ safety guarding as dictated by OSHA standards.

## **462-327 Electro-Hydraulic/Mechanical Systems - 4 Crs.**

Students draw and interpret electrical ladder diagrams and design electrical control circuits. Select, install and test motor control devices. Connect single-, three-phase and DC motors to control devices. Select, program, install and operate AC variable frequency drives. (Prerequisite: 462-301 DC/AC Electricity)

## **462-330 Integrated Manufacturing Center Project Implementation - 3 Crs.**

Emphasizes project management processes, teamwork, problem solving and decision making. Integrates Industrial Maintenance Technician students with Integrated Manufacturing students in the development and operation of an automated workcell project. The workcell project will produce a product, providing students an opportunity to utilize their skills in a "real-world" setting. (Prerequisite: 462-324 Integrated Manufacturing Center Project Planning)

## **475-350 Safety Applications - 2 Crs.**

Examines safety practices common to the construction industry for a safe working environment. Includes OSHA 10, First Aid and CPR, fire protection, and forklift training. Upon successful completion of this course students will receive a Moraine Park Construction Safety Certificate, OSHA 10, and First Aid/CPR certification cards.

## **475-351 Building Trades Fundamentals - 5 Crs.**

Examines the history of the construction industry, residential and commercial construction, building practices, tool usage, construction materials, building codes, building plans, and site layout. Prepares the student for the theory and hands-on courses to follow.

## **475-352 Framing Construction - 5 Crs.**

Develops skills in the construction of the foundation and framing a structure by building walls, floors, roof and staircases. Students explore the use of wood and steel construction products and green environmentally-friendly technologies. (Prerequisites: Completion of or concurrent enrollment in 475-350 Safety Applications; 475-351 Building Trades Fundamentals)

## **475-353 Exterior Finish - 5 Crs.**

Develops skills in the construction process known as exterior finish which includes installing windows and doors, applying roofing materials, installing exterior siding and soffit, masonry products, and constructing patio decks and/or walkways. (Prerequisites: Completion of or concurrent enrollment in 475-350 Safety Applications; 475-352 Framing Construction)

## **475-354 Interior Finish - 5 Crs.**

Develops skills in the construction process known as interior finish which consist of installing insulation, sheathing walls and ceilings, applying drywall, stucco, or plaster finish, painting, constructing and applying trim moldings, staircase finishing, and installing cabinetry. (Prerequisites:

Completion or concurrent enrollment in 475-350 Safety Applications; 475-352 Framing Construction)

## **475-355 Building Trades Mechanical Systems - 3 Crs.**

Investigates the history and functions of electrical, plumbing and HVAC trades as they relate to the construction industry. Students experience different trade practices and observe how the various trades interact during the construction process. Emphasizes developing an understanding of what criteria is necessary to work in these trades. (Prerequisite: Completion of or concurrent enrollment in 475-350 Safety Applications)

## **475-356 Concrete Masonry Applications - 2 Crs.**

Introduces students to the basic principles of masonry and concrete construction. Areas covered will include tool identification and use, related products and materials, applicable safety procedures, interpretation of plans, measurement and layout, brick and block laying, footings and foundations and concrete flat work. Instruction will incorporate a strong hands-on component.

## **499-100 Apprenticeship Completion - 32 Crs.**

Requires the completion of a BAS/BAT Apprenticeship Program of 400 hours. Record of completion of an apprenticeship for the Technical Studies Journeyworker program.

## **501-101 Medical Terminology - 3 Crs.**

Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasizes spelling, definition and pronunciation. Introduces operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

## **501-104 Principles of Customer Service in**

**Healthcare - 2 Crs.** Introduces customer service for students interested in working in various healthcare settings. Investigates healthcare systems, safety standards and the workforce. Examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service in healthcare.

## **501-107 Introduction to Computing for Healthcare - 2 Crs.**

Provides an introduction to basic computer functions and applications utilized in contemporary healthcare settings. Students are introduced to the hardware and software components of modern computer systems and the application of computers in the workplace. Emphasizes the use of common software packages, operating systems, file management, word processing, spreadsheets, database, Internet, and electronic mail.

## **501-108 Pharmacology for Allied Health - 2 Crs.**

Introduces students to medication classification and basic pharmacology principles. Students apply basic pharmacodynamics to identify common medications and calculate dosages in preparation for medication administration. (Prerequisites: Completion of or concurrent enrollment in 501-101 Medical Terminology; 509-302 Human Body in Health and Disease)

## **502-300 Professional Practices - 2 Crs.**

Focuses on the study of bacteriology and its relationship to spreading diseases. Examines infection control and the responsibility of the salon professional to practice sanitation. Explores career image of the Barber/Cosmetologist. Practices skills in preparation for clinical experiences. Develops relationships with clientele and coworkers. (Prerequisites: Concurrent enrollment in 502-302 Hairstyling, Basic Techniques; 502-312 Haircutting Techniques; 502-335 Permanent Wave, Design Wraps; 502-346 Lightening and Toning)

**502-301 Hairstyling, Shampooing and Scalp Treatments - 2 Crs.** Develops skills in shampooing and scalp treatment procedures and in the use of conditioning products. Focuses on cleansing hair and scalp. Develops skills in pin curling to include flat curls and stand-up curls. Introduces wet sets including Velcro roller setting, blow-drying and iron curling. Also includes electric roller work and skills related to thermal curling and hair pressing. (Prerequisites: Concurrent enrollment in 502-311 Haircutting, Basic Forms; 502-334 Permanent Wave Techniques; 502-345 Hair Color Applications)

**502-302 Hairstyling, Basic Techniques - 2 Crs.** Develops higher-level skills, building upon skills learned in 502-301 Hairstyling, Shampooing and Scalp Treatment. Students develop skills in electric and Velcro rollers, thermal curling and pressing, blow-drying techniques and theory associated with each skill area. Provides hands-on application in cosmetology clinic. Students perform and receive services on each other as they develop their skills. (Prerequisites: 502-301 Hairstyling, Shampooing, and Scalp Treatments. Concurrent enrollment in 502-300 Professional Practices; 502-312 Haircutting Techniques; 502-335 Permanent Wave, Design Wraps; 502-346 Lightening and Toning)

**502-303 Hairstyling, Updos and Braids - 1 Cr.** Develops skills in updo hairstyling to include different types of twists, curls, bows, petals, loops, rolls, artificial hair techniques and ornamentation techniques. Students create hair designs that incorporate direction, movement, smoothness, balance and creativity in the finished design. (Prerequisites: 502-302 Hairstyling, Basic Techniques. Concurrent enrollment in 502-313 Short and Trend Cuts; 502-322 Salon Services 2; 502-330 Facials/Skin Structure and Its Disorders)

**502-309 Nail Care - 1 Cr.** Applies techniques for giving basic and lactol manicures, pedicures and polish application in preparation for work on the clinic floor. Hands-on activities help students gain skill at manipulations and accuracy of techniques for professional results. Nail structure and nail disorders and diseases are examined to aid in recommendations to the client. (Prerequisites: Current enrollment in 502-348 Highlighting and Corrective Color; 502-337 Advanced Design Wraps; 502-321 Salon Services 1)

**502-311 Haircutting, Basic Forms - 2 Crs.** Analyzes essential factors in creating hair shapes for the individual. Hair is cut using the four main hair-shaping forms with the shears on manikins for practice in preparation for cutting the client's hair. Haircutting services create the basic foundation for hairstyling. (Prerequisites: Concurrent enrollment in 502-301 Hairstyling, Shampooing, and Scalp Treatments; 502-334 Permanent Wave Techniques; 502-345 Hair Color Applications)

**502-312 Haircutting Techniques - 1 Cr.** Focuses on cutting uniformly layered haircuts on manikins using shears and razor. Use of the clippers is practiced. Texturizing and slithering techniques are emphasized while the four main shaping forms are reviewed. (Prerequisites: 502-301 Hairstyling, Shampooing, and Scalp Treatments; 502-311 Haircutting, Basic Forms. Concurrent enrollment in 502-300 Professional Practices; 502-302 Hairstyling, Basic Techniques; 502-335 Permanent Wave, Design Wraps; 502-346 Lightening and Toning)

**502-313 Short and Trend Cuts - 1 Cr.** Includes hands-on experience in the use of manikins and human models to demonstrate more difficult and challenging hair designs. (Prerequisites: Concurrent enrollment in

502-303 Hairstyling, Updos and Braids; 502-322 Salon Services 2; 502-330 Facials/Skin Structure and Its Disorders)

**502-316 Artificial Nails - 1 Cr.** Develops skill in procedure and application of nail extensions, acrylic overlay and sculptured nails including fiberglass application and gel application. Students are introduced to nail art using an airbrush machine, nail art brushes, trend techniques, and the procedure for French manicuring. It is a requirement of this course that students work with assigned partners to complete the learning plans of this course. Students must work on other students in the class and must allow students to practice skills on them. (Prerequisites: 502-309 Nail Care. Concurrent enrollment in 502-323 Salon Services 3; 502-333 Chemical Relaxing and Wigs; 502-381 Salon Operations)

**502-321 Salon Services 1 - 2 Crs.** Applies practical techniques, communication skills and core abilities learned in the classroom on clients in a salon-type setting with instructor guidance. Services provided to customers include shampooing, haircutting, hairstyling, hair coloring, permanent waving and scalp treatments. (Prerequisites: 502-300 Professional Practices; 502-302 Hairstyling, Basic Techniques; 502-312 Haircutting Techniques; 502-335 Permanent Wave, Design Wraps; 502-346 Lightening and Toning. Concurrent enrollment in 502-309 Nail Care; 502-337 Advanced Design Wraps; 502-348 Highlighting and Corrective Color)

**502-322 Salon Services 2 - 3 Crs.** Applies practical techniques, communication skills and core abilities learned in the classroom on clients in a salon-type setting with instructor guidance. Services provided to customers include shampooing, haircutting, hairstyling, hair coloring, permanent waving, scalp treatments, and manicures and pedicures. (Prerequisites: 502-321 Salon Services 1. Concurrent enrollment in 502-303 Hairstyling, Updos and Braids; 502-313 Short and Trend Cuts; 502-330 Facials/Skin Structure and Its Disorders)

**502-323 Salon Services 3 - 3 Crs.** Applies practical techniques, communication skills and core abilities learned in the classroom on clients in a salon-type setting with instructor guidance. Services provided to customers include shampooing, haircutting, hairstyling, hair coloring, permanent waving, scalp treatments, manicures, pedicures, highlighting techniques, corrective coloring and facials. Students are also expected to market products and services. (Prerequisites: 502-322 Salon Services 2. Concurrent enrollment in 502-316 Artificial Nails; 502-333 Chemical Relaxing and Wigs; 502-381 Salon Operations)

**502-324 Salon Services 4 - 4 Crs.** Applies practical techniques, communication skills and core abilities learned in the classroom on clients in a salon-type setting with minimal instructor guidance. Services provided to customers include shampooing, haircutting, hairstyling, hair coloring, permanent waving, scalp treatments, manicures, pedicures, highlighting techniques, corrective coloring, facials, artificial nails, chemical relaxing and wigs. Students are also expected to market products and services. (Prerequisites: 502-323 Salon Services 3. Concurrent enrollment in 502-354 Chemistry; 502-356 Laws and Rules)

**502-325 Salon Services 5 - 3 Crs.** Applies practical techniques, communication skills and core abilities learned in the classroom on clients in a salon-type setting with little or no instructor guidance. Services

provided to customers include shampooing, haircutting, hairstyling, hair coloring, permanent waving, scalp treatments, manicures, pedicures, highlighting techniques, corrective coloring, facials, artificial nails, chemical relaxing and wigs. Students take and evaluate a test curl independent of the instructor. Students are also expected to market products and services. (Prerequisites: 502-324 Salon Services 4. Concurrent enrollment in 502-355 Anatomy/Book Final)

**502-330 Facials/Skin Structure and Its Disorders - 3 Crs.** Develop skills in skin care services including facial massage, arching, waxing, chemical hair removal, and mask and pack applications. Students develop skills in applying corrective makeup using techniques to balance eye shapes with eye makeup using safe and sanitary shaving procedures, applying artificial eyelashes, and using an eyelash curler. Students are required to perform and receive services on each other, as assigned by the instructor. (Prerequisites: Concurrent enrollment in 502-303 Hairstyling, Updos and Braids; 502-313 Short and Trend Cuts; 502-322 Salon Services 2)

**502-333 Chemical Relaxing and Wigs - 1 Cr.** Focuses on the process of changing natural curly hair forms so that they become either less curly or straight. Combines product information with choice of techniques and hair analysis for a relaxing treatment. Special emphasis is placed on sodium hydroxide. Also includes cleaning and blocking, shaping, coloring, and the setting and styling of wigs and wiglets. (Prerequisites: Concurrent enrollment in 502-316 Artificial Nails; 502-323 Salon Services 3; 502-381 Salon Operations)

**502-334 Permanent Wave Techniques - 2 Crs.** Provides the initial skills involved in permanent waving hair including analyzing the hair, the basics of sectioning, subsectioning and wrapping permanent wave rods. Analyzes the effect of the chemicals on the hair shaft during the permanent wave process. (Prerequisite: Concurrent enrollment in 502-301 Hairstyling, Shampooing and Scalp Treatments)

**502-335 Permanent Wave, Design Wraps - 1 Cr.** Applies permanent wave wrapping skills to the mohawk and cowlick wrap patterns without basic sectioning. Employs spiraling techniques using permanent wave rods and tensive rings (rounded rods). Product knowledge is introduced. Analyzes the purpose and properties of hair, along with its disorders and diseases. (Prerequisites: 502-334 Permanent Wave Techniques. Concurrent enrollment in 502-300 Professional Practices; 502-302 Hairstyling, Basic Techniques; 502-312 Haircutting Techniques; 502-346 Lightening and Toning)

**502-337 Advanced Design Wraps - 1 Cr.** Focuses on advanced permanent wave wrap techniques. Directional wraps for short to medium length hair along with wraps for long hair will be practiced. Examines electricity as it applies to salons, and classification of the effects of light therapy and electrotherapy are discussed. (Prerequisites: Concurrent enrollment in 502-309 Nail Care; 502-321 Salon Services 1; 502-348 Highlighting and Corrective Color)

**502-345 Hair Color Applications - 1 Cr.** Practices hair color techniques including artificial color removal, color fillers and tintbacks. (Prerequisites: Concurrent enrollment in 502-301 Hairstyling, Shampooing and Scalp Treatments; 502-311 Haircutting, Basic Forms; 502-334 Permanent Wave Techniques)

# COURSE DESCRIPTIONS (CONT.)

**502-346 Lightening and Toning - 1 Cr.** Provides instruction and practice using techniques for applying lightening products to hair. Included are first-time lightening, lightening retouch, highlighting and lowlighting cap technique, and toning application. Tint retouch is reviewed and retested with state board criteria. Students demonstrate skills on peers and/or manikins. (Prerequisites: 502-345 Hair Color Applications. Concurrent enrollment in 502-300 Professional Practices; 502-302 Hairstyling, Basic Techniques; 502-312 Haircutting Techniques; 502-335 Permanent Wave, Design Wraps)

**502-348 Highlighting and Corrective Color - 1 Cr.** Develops skills in selecting color formulas, principles applied when coloring grey hair and achieving special effects. Introduces highlighting techniques, corrective hair coloring techniques and brow coloring. (Prerequisites: 502-346 Lightening and Toning. Concurrent enrollment in 502-309 Nail Care; 502-321 Salon Services 1; 502-337 Advanced Design Wraps)

**502-354 Chemistry - 1 Cr.** Focuses on the composition and nature of hair and how it is affected by the products used in performing services to change it both chemically and physically. Students will analyze mixture and chemical compounds, physical and chemical changes, the pH scale, acids and bases, cosmetics, solutions and emulsions to develop safe and knowledgeable reasoning skills regarding hair and skin. (Prerequisites: Concurrent enrollment in 502-324 Salon Services 4; 502-356 Laws and Rules)

**502-355 Anatomy and Book Final - 1 Cr.** Focuses on the anatomy and physiology of the body by identifying and examining cells and the skeletal, muscular, nervous and circulatory systems. Includes a comprehensive review in preparation for the written portion of the state board examination following the guidelines established by Continental Testing Services. (Prerequisite: Concurrent enrollment in 502-325 Salon Services 5)

**502-356 Laws and Rules - 1 Cr.** Examines Wisconsin barber/cosmetology state statutes and administrative code. The state statutes are studied in relation to the corresponding rules involved with each topic. Focuses on the structure of skin and its disorders and diseases as it relates to the barber/cosmetology industry. (Prerequisites: Concurrent enrollment in 502-324 Salon Services 4; 502-354 Chemistry)

**502-361 Nail Technician 1 - 3 Crs.** Introduces the student to theory related to basic and lactol manicure. Focuses on products, procedures, methods and skill development in manicuring, pedicuring and artificial nails. First of three courses preparing students for state Manicurist Licensing Exam. A meeting with an admissions specialist is required prior to enrolling in the course.

**502-362 Nail Technician 2 - 4 Crs.** Continuation of theoretical and practical skill development. Part two of a three-part program preparing students for the state Manicurist Licensing Exam. Skills will be practiced in an actual salon setting. (Prerequisite: 502-361 Nail Technician 1)

**502-363 Nail Technician 3 - 2 Crs.** Continuation of a three-part Nail Technician program. Student will concentrate on developing skills and acceptable practices in a salon setting in preparation for the state Manicurist Licensing Exam. (Prerequisite: 502-362 Nail Technician 2)

**502-381 Salon Operations - 1 Cr.** Provides basic business principles necessary to plan and operate a business establishment. Employer-employee relationships, basic recordkeeping and time management skills are taught. (Prerequisites: Concurrent enrollment in 502-316 Artificial Nails; 502-323 Salon Services 3; 502-333 Chemical Relaxing and Wigs)

**502-501 Shampooing, Cutting, Styling and Permanent Waving - 3 Crs.** Focuses on the theoretical knowledge and practical skills in preparation for state licensure as a practitioner in the profession of Barber/Cosmetology, specifically in the subjects of haircutting, beard trimming, shampooing, hair styling, wigs and permanent waves. Must be a state-contracted apprentice to enroll in this course.

**502-502 Relaxing, Coloring, Nails and Skin - 3 Crs.** Focuses on the theoretical knowledge and practical skills in preparation for state licensure as a practitioner in the profession of Barber/Cosmetology, specifically in the subjects of hair coloring, chemical relaxing, skin care and nail care. Must be a state-contracted apprentice to enroll in this course.

**502-503 Health, Image, Structure and Law - 3 Crs.** Focuses on the theoretical knowledge and practical skills in preparation for state licensure as a practitioner in the profession of Barber/Cosmetology, specifically in the subjects of history, professional image, infection control, properties of the hair, chemistry, anatomy and physiology, state law and salon business. Must be a state-contracted apprentice to enroll in this course.

**504-102 Careers in Corrections - 3 Crs.** Focuses on the exploration of corrections-related careers. Students explore options available to them in the corrections field and they assess their skills and interests. Exploration of corrections-related careers occur through tours of facilities, presentations by working professionals, and individual and group activities. Students must be able to secure transportation and attend group tours of correctional facilities within a 75-mile radius.

**504-103 Adult Institutional Supervision - 3 Crs.** Emphasizes the skills required of the adult institutional supervisor to manage inmates. Focus is on identifying and practicing responses to inmate behaviors. Scenario and role-play activities are included to provide practice in a safe environment. Recommended for second-year students. Course builds on first-year program skills.

**504-110 Introduction to Criminal Justice Supervision - 3 Crs.** An overview of crime and the criminal justice system. Causes of crime will be examined as well as the impact of crime on the victim.

**504-113 Criminal Investigation - 3 Crs.** Introduces the study of fundamentals of criminal investigation; knowledge, use and function of scientific aids in crime detection; importance of the criminals' modus operandi; development of sources of information; and the need for investigation in the criminal justice system.

**504-116 Alcohol and Drug Awareness in Criminal Justice - 3 Crs.** Using the dualistic approach, the progression of alcohol and other substance abuses are explored. Legal ramifications of substance abuse are investigated. Effects of alcohol and other drug abuse on the family are covered. Examines the composition and effects of the most common substances of abuse.

**504-122 Correctional Law, Codes and Reports - 3 Crs.** Examines how laws and rules impact correctional

practices in adult and juvenile corrections. Students are asked to apply laws and rules to correctional situations.

**504-129 Interviewing Techniques - 3 Crs.** Provides opportunities for the student to develop the skills and abilities needed to be successful in interviewing clients in correctional settings. Emphasis is placed on applying verbal, nonverbal and written communication skills in the correctional interview process.

**504-132 Corrections Report Writing - 3 Crs.** Identifies the types of documentation needed in correctional settings, from least restrictive to most restrictive. Strategies for effective report writing will be identified and developed. Scenario will be critiqued and reduced to a written report. Students will interview each other and complete a portion of a presentence investigation. (Prerequisites: 504-129 Interviewing Techniques; 801-195 Written Communication)

**504-133 Adolescent and Juvenile Supervision - 3 Crs.** Creates a professional awareness of an adolescent's developmental and interpersonal needs from an intellectual, applicational and intrapersonal perspective. Using a variety of methods, students assess their own, as well as an adolescent's, psychological, intellectual and emotional needs/maturity. Corrections core skills related to supervising youth will be introduced and developed.

**504-136 Correctional Counseling - 3 Crs.** Develops corrections core skills to effectively counsel, on a paraprofessional level, people in a variety of corrections environments. Emphasizes the how or the conditions under which effective counseling can occur. Students will develop a multiple modality approach for individual and group counseling. (Prerequisite: 504-129 Interviewing Techniques)

**504-143 Probation and Parole - 3 Crs.** Develops skills to perform the dualistic roles of a Wisconsin probation and parole agent. Through numerous hands-on activities and the application of pertinent Wisconsin Codes, students become competent in providing safety/security in the community while monitoring and counseling offenders. (Prerequisite: 801-195 Written Communication)

**504-146 Security Procedures - 3 Crs.** Focuses on Wisconsin Department of Justice Training and Standards Bureau Tasks 2.2, 3, 9, 10, 12 and 14. This includes: Maintain Jail Security; Admit Inmates to Custody; Discipline Inmates; Assist With Jail Health Care Program; Assist With Jail Cleanliness, Sanitation and Food Service; and Release Inmates From Custody.

**504-155 Stress Management - 3 Crs.** Provides participants with skills and abilities to deal constructively with stressors in the correctional field. Focus is on assessing individual stressors, analyzing the impact of stress, reducing stressors and developing stress-coping mechanisms. Coping mechanisms include assertion, anger management, conflict resolution, time management, relaxation activities, exercise and diet planning.

**504-162 Corrections Internship - 2 Crs.** Focuses on developing a corrections-specific résumé and cover letter. Learn how to complete applications. Upon completion of the classroom work, students complete a 72-hour internship at a corrections-related site. (Prerequisites: 504-102 Careers in Corrections; 504-110 Introduction to Criminal Justice Supervision; 504-129 Interviewing Techniques; 504-133 Adolescent and Juvenile Supervision; 504-146 Security Procedures; 504-181 Ethnicity, Corrections and Supervision; criminal background check)

**504-163 Emergency Procedures - 3 Crs.** Provides theoretical applications for dealing with potentially dangerous situations, keeping them from escalating, and protecting yourself if they do. Students analyze scenarios in a search and rescue of a smoke-filled room, formulate responses to suicidal offenders, analyze application of restraints, and use force principles. This course fulfills POSC requirements. (Prerequisite: 504-146 Security Procedures)

**504-181 Ethnicity, Corrections and Supervision - 3 Crs.** Analyzes the elements of ethnicity and how they assist corrections professionals to live and work in multicultural/ethnically diverse environments. Emphasizes distinctions between values, attitudes and behaviors founded on fiction and facts among ethnic groups. Applies knowledge/skills to correctional environments.

**509-301 Medical Assistant Administrative Procedures - 1 Cr.** Introduces medical assistant students to office management, business administration, and the electronic medical record (EMR) in the medical office. Students learn to schedule appointments, perform filing, recordkeeping, telephone and reception duties, communicate effectively with patients and other medical office staff, and keep an inventory of supplies. (Prerequisite: Completion of or concurrent enrollment in 501-107 Introduction to Computing for Healthcare)

**509-302 Human Body in Health and Disease - 3 Crs.** Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize human body anatomy and the causes, signs and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis and prevention of common diseases. (Prerequisite: Completion of or concurrent enrollment in 501-101 Medical Terminology)

**509-303 Medical Assistant Laboratory Procedures 1 - 2 Crs.** Introduces medical assistant students to laboratory procedures commonly performed by medical assistants in a medical office setting. Students perform CLIA waived routine laboratory procedures commonly performed in the ambulatory care setting. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology and urinalysis testing. (Prerequisites: Admission to the Medical Assistant program. Completion of or concurrent enrollment in 501-101 Medical Terminology; 509-302 Human Body in Health and Disease. Corequisite: 509-304 Medical Assistant Clinical Procedures 1)

**509-304 Medical Assistant Clinical Procedures 1 - 4 Crs.** Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs and patient history, and assist with minor surgery and patient preparation for routine and specialty exams in the ambulatory care setting. (Prerequisites: Admission into the Medical Assistant program. Completion of or concurrent enrollment in 501-101 Medical Terminology; 509-302 Human Body in Health and Disease. Corequisite: 509-303 Medical Assistant Laboratory Procedures 1)

**509-305 Medical Assistant Laboratory Procedures 2 - 2 Crs.** Prepares students to perform phlebotomy and CLIA waived hematology, chemistry, immunology and laboratory procedures commonly performed by medical assistants in the ambulatory care setting. (Prerequisites: 509-303 Medical Assistant Laboratory Procedures 1; 509-304 Medical Assistant Clinical Procedures 1)

Completion of or concurrent enrollment in 501-108 Pharmacology for Allied Health. Corequisite: 509-306 Medical Assistant Clinical Procedures 2)

**509-306 Medical Assistant Clinical Procedures 2 - 3 Crs.** Prepares medical assistant students to perform patient care skills in the medical office setting. Students perform clinical procedures including administering medications, performing an electrocardiogram, assisting with respiratory testing, educating patients/community, and assisting with emergency preparedness in an ambulatory care setting. (Prerequisites: 509-303 Medical Assistant Laboratory Procedures 1; 509-304 Medical Assistant Clinical Procedures 1. Completion of or concurrent enrollment in 501-108 Pharmacology for Allied Health. Corequisite: 509-305 Medical Assistant Laboratory Procedures 2)

**509-307 Medical Office Insurance and Finance - 2 Crs.** Introduces medical assistant, medical office and medical billing students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance-related duties. (Prerequisites: Completion of or concurrent enrollment in 501-101 Medical Terminology; 501-107 Introduction to Computing for Healthcare; 509-302 Human Body in Health and Disease)

**509-309 Medical Law, Ethics and Professionalism - 1 Cr.** Prepares students to display professionalism and perform within ethical and legal boundaries in the healthcare setting. Students maintain confidentiality, examine legal and bioethical issues, and demonstrate awareness of diversity.

**509-310 Medical Assistant Practicum - 3 Crs.** The practicum experience requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual ambulatory healthcare settings. Students perform medical assistant administrative, clinical and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. This is a supervised, unpaid, clinical experience. This course should be taken in the last semester. (Prerequisites: 501-107 Introduction to Computing for Healthcare; 509-301 Medical Assistant Administrative Procedures; CPR and First Aid for Health Professionals; proof of immunization; caregiver background check. Completion of or concurrent enrollment in 501-104 Principles of Customer Service in Healthcare; 509-305 Medical Assistant Laboratory Procedures 2; 509-306 Medical Assistant Clinical Procedures 2; 509-307 Medical Office Insurance and Finance; 509-309 Medical Law, Ethics and Professionalism)

**510-301 Medication Assistant - 3 Crs.** Prepares experienced nursing assistants to administer medications to residents of a skilled-care nursing facility. Emphasis is in the role of the Medication Assistant, legalities of medication administration, and control and storage of drugs. Provides experience in techniques of administering drugs and recordkeeping. (Prerequisites: Student must be 18 years of age; have a high school diploma or HSED; be on the State of Wisconsin Nurse Aide Directory with current federal eligibility; have at least 2,000 hours experience in direct patient care within the last three years; have worked a minimum of 40 hours, within the last 90 days, with the residents to whom the student will be administering medications; be recommended in writing by the director of nursing and the administrator of the agency in which the student will be working during clinical experience; and be recommended by

two licensed charges nurses, one of whom must be a registered nurse. Currently employed as a certified nursing assistant in a skilled-care facility. This course contains 68 hours of theory and 40 hours of clinical)

**512-125 Introduction to Surgical Technology - 4 Crs.** Provides the foundational knowledge of the occupational environment. Principles of sterilization and disinfection are learned. Surgical instruments are introduced. Preoperative patient care concepts are simulated. Lab practice is included. (Prerequisites: 806-177 General Anatomy and Physiology; completion of or concurrent enrollment in 501-101 Medical Terminology)

**512-126 Surgical Technology Fundamentals 1 - 4 Crs.** Focuses on preparing the patient and operating room for surgery. Principles of sterile technique are emphasized as the student moves into the scrub role. Lab practice is included. (Prerequisites: Completion of or concurrent enrollment in 501-101 Medical Terminology; 512-125 Introduction to Surgical Technology; 806-179 Advanced Anatomy and Physiology)

**512-127 Exploring Surgical Issues - 2 Crs.** Explores a variety of issues related to surgical technology. Emphasizes becoming a professional member of the surgical team. (Prerequisites: Completion of or concurrent enrollment in 512-125 Introduction to Surgical Technology; 512-126 Surgical Technology Fundamentals 1)

**512-128 Surgical Technology Fundamentals 2 - 4 Crs.** Focuses on enhancing surgical technology skills while functioning as a sterile team member. Includes lab and/or clinical practice. (Prerequisites: 501-101 Medical Terminology; 512-125 Introduction to Surgical Technology; 512-126 Surgical Technology Fundamentals 1. Completion of or concurrent enrollment in 512-127 Exploring Surgical Issues; 512-129 Surgical Pharmacology; 806-197 Microbiology)

**512-129 Surgical Pharmacology - 2 Crs.** Basic study of drug classifications, care and handling of drugs and solutions, application of mathematical principles in dosage calculations, terminology related to pharmacology, anesthesia, and drugs used in surgery. (Prerequisites: Completion of or concurrent enrollment in 512-125 Introduction to Surgical Technology, 512-126 Surgical Technology Fundamentals 1)

**512-130 Surgical Skills Application - 2 Crs.** Provides a transition from the academic to the clinical setting. Students integrate the surgical technologist skills as they apply to various surgical procedures. (Prerequisites: 512-125 Introduction to Surgical Technology; 512-126 Surgical Technology Fundamentals 1. Completion of or concurrent enrollment in 512-128 Surgical Technology Fundamentals 2; 512-129 Surgical Pharmacology)

**512-131 Surgical Interventions 1 - 4 Crs.** Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology, diagnostic interventions, health sciences and surgical techniques for a variety of procedures. (Prerequisites: 512-128 Surgical Technology Fundamentals 2; 512-130 Surgical Skills Application)

**512-132 Surgical Technology Clinical 1 - 3 Crs.** Apply basic surgical theories, principles and procedural techniques in the operating room. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. (Prerequisites: 512-128 Surgical Technology Fundamentals 2; 512-130 Surgical Skills Application. Completion of or concurrent enrollment in 512-131 Surgical Interventions 1)

# COURSE DESCRIPTIONS (CONT.)

## **512-133 Surgical Technology Clinical 2 - 3 Crs.**

Further experience in a clinical setting allows students to continue to improve technical skills while accepting more responsibilities during surgical procedures. (Prerequisites: Completion of or concurrent enrollment in 512-131 Surgical Interventions 1; 512-132 Surgical Technology Clinical 1)

**512-134 Surgical Interventions 2 - 3 Crs.** Expands knowledge of core and specialty surgical procedures by incorporating pathophysiology, diagnostic interventions, health sciences and surgical techniques. (Prerequisites: 512-131 Surgical Interventions 1; 512-133 Surgical Technology Clinical 2. Completion of or concurrent enrollment in 512-135 Surgical Technology Clinical 3; 512-136 Surgical Technology Clinical 4)

## **512-135 Surgical Technology Clinical 3 - 3 Crs.**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. (Prerequisites: 512-133 Surgical Technology Clinical 2. Completion of or concurrent enrollment in 512-134 Surgical Interventions 2)

## **512-136 Surgical Technology Clinical 4 - 3 Crs.**

During this clinical course the student will function relatively independently. Serves as a transition from a student perspective to an employee by utilizing advanced skills for an entry-level Surgical Technologist. (Prerequisites: Completion of or concurrent enrollment in 512-134 Surgical Interventions 2; 512-135 Surgical Technology Clinical 3)

**513-100 Phlebotomy Essentials - 4 Crs.** Prepares the student to collect blood specimens for laboratory analysis. Students apply medical terminology, basic anatomy and physiology, infection control, safety, communication and professionalism as they relate to the role of the phlebotomist in the medical laboratory. Specimen collection equipment and venipuncture used. (Prerequisite: This course is for Phlebotomy Technician Certificate students only)

**513-101 Phlebotomy Clinical - 2 Crs.** Provides students with experiences at a hospital, clinic and/or blood center locations in order to complete phlebotomy activities. Students complete venipunctures, perform administration of glucose testing, collect specimens, perform bleeding times, observe or perform arterial blood gas collections and adhere to safety regulations as established by the clinical site. (Prerequisites: 513-100 Phlebotomy Essentials or 513-111 Phlebotomy; criminal background check)

## **513-105 Phlebotomy for Allied Health - 2 Crs.**

Focuses on the introduction to human specimen collection and processing. Provides opportunities for students to perform routine venipuncture, routine capillary puncture, and special collection procedures. Learning venous access skills from a phlebotomy perspective can facilitate enhanced technique in subsequent program courses. Performs administration of some CLIA waived testing, specimen collection, and bleeding times on human subjects. Designed for any healthcare student currently enrolled in or on waiting lists for Allied Health programs.

**513-110 Basic Lab Skills - 1 Cr.** Explores health career options and the fundamental principles and procedures performed in the clinical laboratory. Students will utilize medical terminology and basic laboratory equipment. Students will follow required safety and infection control procedures and perform simple laboratory tests.

(Prerequisite: 806-177 General Anatomy and Physiology. Corequisites: 513-111 Phlebotomy; 513-113 Quality Assurance and Laboratory Math; 513-114 Urinalysis)

**513-111 Phlebotomy - 2 Crs.** Provides opportunities for learners to perform routine venipuncture, routine capillary puncture and special collection procedures. (Prerequisite: 806-177 General Anatomy and Physiology. Corequisites: 513-110 Basic Lab Skills; 513-113 Quality Assurance and Laboratory Math; 513-114 Urinalysis)

**513-113 Quality Assurance and Laboratory Math - 1 Cr.** Focuses on performing the mathematical calculations routinely used in laboratory settings. Students will explore the concepts of quality control and quality assurance in the laboratory and will review regulatory compliance requirements, and certification and continuing education programs. (Prerequisite: 806-177 General Anatomy and Physiology. Corequisites: 513-110 Basic Lab Skills; 513-111 Phlebotomy; 513-114 Urinalysis)

**513-114 Urinalysis - 2 Crs.** Prepares students to perform a complete urinalysis which includes physical, chemical and microscopic analysis. Students will explore renal physiology and correlate urinalysis results with clinical conditions. (Prerequisite: 806-177 General Anatomy and Physiology. Corequisites: 513-110 Basic Lab Skills; 513-111 Phlebotomy; 513-113 Quality Assurance and Laboratory Math)

**513-115 Basic Immunology Concepts - 2 Crs.** Provides an overview of the immune system including laboratory testing methods for diagnosis of immune system disorders, viral and bacterial infections. (Prerequisites: 513-110 Basic Lab Skills; 513-113 Quality Assurance and Laboratory Math; 806-186 Introduction to Biochemistry. Corequisites: 513-120 Basic Hematology; 513-122 Introduction to Blood Bank; 513-131 Clinical Chemistry 1)

**513-120 Basic Hematology - 3 Crs.** Covers the theory and principles of blood cell production and function, and introduces students to basic practices and procedures in the hematology laboratory. (Prerequisite: 513-111 Phlebotomy. Corequisites: 513-115 Basic Immunology Concepts; 513-122 Introduction to Blood Bank; 513-131 Clinical Chemistry 1)

**513-121 Coagulation - 1 Cr.** Introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. (Prerequisite: 513-120 Basic Hematology. Corequisites: 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology)

**513-122 Introduction to Blood Bank - 2 Crs.** Focuses on basic blood banking concepts and procedures including blood typing and compatibility testing. (Prerequisite: 513-110 Basic Lab Skills. Corequisites: 513-115 Basic Immunology Concepts; 513-120 Basic Hematology; 513-131 Clinical Chemistry 1)

**513-123 Advanced Blood Bank - 2 Crs.** Consists of advanced blood banking concepts and procedures including workups for adverse reaction to transfusions and disease states. (Prerequisite: 513-122 Introduction to Blood Bank. Corequisites: 513-121 Coagulation; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology)

**513-130 Advanced Hematology - 2 Crs.** Explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon

laboratory techniques used to diagnose disorders and monitor treatment. (Prerequisite: 513-120 Basic Hematology. Corequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology)

**513-131 Clinical Chemistry 1 - 3 Crs.** Introduces Clinical Chemistry techniques and procedures for routine analysis using photometric, potentiometric and separation techniques. Topics in this course include pathophysiology and methodologies for carbohydrate, lipoids, proteins, renal function and blood gas analysis. (Prerequisites: 513-114 Urinalysis; 806-186 Introduction to Biochemistry. Corequisites: 513-115 Basic Immunology; 513-120 Basic Hematology; 513-122 Introduction to Blood Bank)

**513-132 Clinical Chemistry 2 - 2 Crs.** A continuation of Clinical Chemistry Diagnostics, this course includes techniques and procedures for analysis using sophisticated laboratory instrumentation. Topics include pathophysiology and methodologies for hepatic, bone, cardiac markers, tumor markers, endocrine function, fetal function, miscellaneous body fluids, and toxicology. (Prerequisite: 513-131 Clinical Chemistry 1. Corequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-133 Clinical Microbiology)

**513-133 Clinical Microbiology - 4 Crs.** Presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. (Prerequisites: 806-177 General Anatomy and Physiology; 806-197 Microbiology. Corequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2)

**513-140 Advanced Microbiology - 2 Crs.** Provides an overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing and identification will be discussed. (Prerequisite: 513-133 Clinical Microbiology. Corequisites: 513-151 Clinical Experience 1; 513-152 Clinical Experience 2; 513-153 Clinical Experience Seminar)

**513-151 Clinical Experience 1 - 3 Crs.** Students will practice the principles and procedures of laboratory medicine as an entry-level Clinical Laboratory Technician in a clinical laboratory setting. Students will learn to operate state-of-the-art instruments and report results on Laboratory Information Systems. (Prerequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology; health requirements; criminal background check. Corequisites: 513-140 Advanced Microbiology; 513-152 Clinical Experience 2; 513-153 Clinical Experience Seminar)

**513-152 Clinical Experience 2 - 4 Crs.** Provides continuing practice for the principles and procedures of laboratory medicine as an entry-level Clinical Laboratory Technician in a clinical laboratory setting. Students will learn to operate state-of-the-art instruments and report results on Laboratory Information Systems. (Prerequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology; health requirements; criminal background check. Corequisites: 513-140 Advanced Microbiology; 513-151 Clinical Experience 1; 513-153 Clinical Experience Seminar)

**513-153 Clinical Experience Seminar - 2 Crs.** Promotes student success for completing the CLT Exit Exam and the Board of Registry Exam. Each topic area of the clinical laboratory will be reviewed in an interactive manner during the semester. (Prerequisites: 513-121 Coagulation; 513-123 Advanced Blood Bank; 513-130 Advanced Hematology; 513-132 Clinical Chemistry 2; 513-133 Clinical Microbiology. Corequisites: 513-140 Advanced Microbiology; 513-151 Clinical Experience 1; 513-152 Clinical Experience 2)

**515-111 Respiratory Survey - 3 Crs.** Examines the role of the Respiratory Therapist within the healthcare community. Reviews the ethical, legal and regulatory principles that guide practice across diverse populations. Introductory patient assessment and critical thinking processes used in the development of respiratory care plans are explored. (Prerequisite: Acceptance in the Respiratory Therapist program. Corequisite: 515-171 Respiratory Therapeutics 1)

**515-112 Respiratory Airway Management - 2 Crs.** Provides a comprehensive exploration of airway management concepts and skills. (Prerequisites 515-171 Respiratory Therapeutics 1; 806-177 General Anatomy and Physiology. Corequisites: 515-172 Respiratory Therapeutics 2; 515-173 Respiratory Pharmacology; 515-174 Respiratory and Cardiac Physiology)

**515-113 Respiratory Life Support - 3 Crs.** Focuses on adult respiratory critical care including management of adult ventilator support. (Prerequisites: 515-112 Respiratory Airway Management; 515-172 Respiratory Therapeutics 2; 515-174 Respiratory and Cardiac Physiology; 515-175 Respiratory Clinical 1. Corequisites: 515-176 Respiratory Disease; 515-178 Respiratory Clinical 2; 515-179 Respiratory Clinical 3)

**515-171 Respiratory Therapeutics 1 - 3 Crs.** Introduces the topics of medical gas administration and humidity and aerosol therapy. Students apply physics, math and patient assessment concepts to oxygen, aerosol and humidity therapy. (Prerequisite: 806-177 General Anatomy and Physiology. Corequisite: 515-111 Respiratory Survey)

**515-172 Respiratory Therapeutics 2 - 3 Crs.** Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy and pulmonary rehabilitation. (Prerequisite: 515-171 Respiratory Therapeutics 1. Corequisites: 515-173 Respiratory Pharmacology; 515-174 Respiratory and Cardiac Physiology)

**515-173 Respiratory Pharmacology - 3 Crs.** Examines basic pharmacology principles, drug dosage and calculations. Medications for inhalation include mucolytics, bronchodilators and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers and antimicrobials. (Prerequisites: 515-171 Respiratory Therapeutics 1; 806-177 General Anatomy and Physiology. Corequisites: 515-112 Respiratory Airway Management; 515-172 Respiratory Therapeutics 2; 515-174 Respiratory and Cardiac Physiology)

**515-174 Respiratory and Cardiac Physiology - 3 Crs.** Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent Respiratory Therapist. (Prerequisites: 515-171 Respiratory Therapeutics 1; 806-177 General Anatomy and Physiology. Corequisites: 515-112 Respiratory Airway Management; 515-172 Respiratory Therapeutics 2; 515-173 Respiratory Pharmacology)

**515-175 Respiratory Clinical 1 - 2 Crs.** Introduces respiratory therapy practice in the hospital setting. Includes the development of skills such as basic therapeutics, patient assessment, medical record review, safety practices, patient interaction and communication. (Prerequisites: 515-172 Respiratory Therapeutics 2. Completion of or concurrent enrollment in 501-101 Medical Terminology. Health requirements; criminal background check; current certification in CPR for the healthcare provider)

**515-176 Respiratory Disease - 3 Crs.** Explores signs, symptoms, causes, progression and treatment of obstructive, restrictive and infectious diseases or disorders of the body that affect the respiratory system. (Prerequisites: 515-112 Respiratory Airway Management; 515-173 Respiratory Pharmacology; 515-174 Respiratory and Cardiac Physiology; 806-177 General Anatomy and Physiology. Corequisites: 515-177 Respiratory Life Support Technology; 515-178 Respiratory Clinical 2; 515-179 Respiratory Clinical 3)

**515-177 Respiratory Life Support Technology - 4 Crs.** Focuses on adult respiratory critical care including management of mechanical ventilation and artificial airways. (Prerequisites: 515-172 Respiratory Therapeutics 2; 515-174 Respiratory and Cardiac Physiology; 515-175 Respiratory Clinical 1. Corequisites: 515-176 Respiratory Disease; 515-178 Respiratory Clinical 2; 515-179 Respiratory Clinical 3)

**515-178 Respiratory Clinical 2 - 3 Crs.** Continues development of respiratory therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. (Prerequisite: 515-175 Respiratory Clinical 1. Corequisites: 515-176 Respiratory Disease; 515-177 Respiratory Life Support Technology; 515-179 Respiratory Clinical 3. Health requirements; criminal background check; current certification in CPR for the healthcare provider)

**515-179 Respiratory Clinical 3 - 3 Crs.** Continues development of respiratory therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. (Corequisites: 515-176 Respiratory Disease; 515-177 Respiratory Life Support Technology; 515-178 Respiratory Clinical 2. Health requirements; criminal background check; current certification in CPR for the healthcare provider)

**515-180 Respiratory Neonatal and Pediatric Care - 2 Crs.** Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, and noninvasive and invasive therapeutic interventions. (Prerequisite: 515-113 Respiratory Life Support. Corequisites: 515-181 Respiratory and Cardio Diagnostics; 515-182 Respiratory Clinical 4; 515-183 Respiratory Clinical 5)

**515-181 Respiratory and Cardio Diagnostics - 3 Crs.** Examines advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine. (Prerequisites: 515-176 Respiratory Disease; 515-113 Respiratory Life Support. Corequisites: 515-180 Respiratory Neonatal and Pediatric Care; 515-182 Respiratory Clinical 4; 515-183 Respiratory Clinical 5)

**515-182 Respiratory Clinical 4 - 3 Crs.** Continues development of respiratory therapy clinical skills

including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. (Prerequisite: 515-179 Respiratory Clinical 3. Corequisites: 515-180 Respiratory Neonatal and Pediatric Care; 515-181 Respiratory and Cardio Diagnostics; 515-183 Respiratory Clinical 5. Health requirements; criminal background check; current certification in CPR for the healthcare provider)

**515-183 Respiratory Clinical 5 - 3 Crs.** Focuses on the completion of respiratory therapy competencies and transition to employment. This course includes the complete program competency list. At the completion of this clinical, students must demonstrate competence in all of the required and required/simulated competencies. (Corequisites: 515-180 Respiratory Neonatal and Pediatric Care; 515-181 Respiratory and Cardio Diagnostics; 515-182 Respiratory Clinical 4. Health requirements; criminal background check; current certification in CPR for the healthcare provider)

**522-101 IA: Teamwork in School Settings - 3 Crs.** Working together is paramount in helping all children learn. This introductory course will define the role and responsibilities of the instructional assistant. School and educational policies, ethical and moral responsibilities, group dynamics and Wisconsin tribal rights will also be explored. Emphasis placed on collaborating with a team comprised of diverse members.

**522-102 IA: Techniques for Reading and Language Arts - 3 Crs.** Focuses on best practices in working with children in their development of reading and language arts as well as the roles of the teacher and the instructional assistant. The student will gain an understanding of how to work with all children and reinforce instruction individually and in groups through questioning, listening and guiding, and scaffolding techniques. Current classroom materials plus enrichment and support activities will be examined and created.

**522-103 IA: Introduction to Educational Practices - 3 Crs.** Includes the study of historical, philosophical and social foundations of education; issues and trends including diversity affecting our schools of today including elementary, middle level and secondary educational settings. An overview of the governmental basis of education; fundamentals of teaching methodologies, learning styles, questioning techniques and basic assessment practices will be addressed.

**522-104 IA: Technology and Media Resources - 3 Crs.** Provides the opportunity for the student to develop the knowledge and skills in the area of media and computer resources as it relates to the instructional assistant. Students will gain experience creating and using Web tools including electronic portfolios. Requires the ability to use a computer, navigate the Web, and use common software applications.

**522-106 IA: Child and Adolescent Development - 3 Crs.** Provides an overview of physical, motor, perceptual, cognitive, social/emotional, and growth and development birth through adolescence. Analyzes social, parental, cultural, brain, and economic influences on development.

**522-107 IA: Overview of Special Education - 3 Crs.** Provides an overview of the special education law. Special education classifications and associated causes and characteristics will be explored as well as state and federal qualification criteria will be examined. Societal responses to students with disabilities as well as the impact of a student with special needs on family dynamics will also be covered in this course.

# COURSE DESCRIPTIONS (CONT.)

**522-111 IA: Guiding and Managing Behavior - 3 Crs.** Recent trends in education support a shifting paradigm from reactive discipline to proactive, preventive classroom management. Provides the student with research-based concepts and strategies which can be used to prevent behavior problems from occurring in the classroom and respond to misbehavior. Practical application of strategies to organizing instruction, creating a positive classroom climate, building positive student relationships, implementing sound instructional methods, enhancing motivation, and responding effectively to inappropriate classroom behavior will be emphasized. Effective student communication and problem solving will be practiced in class with a focus on developing skills, which will assist in empowering children to take an active role in self-control and classroom management.

**522-118 IA: Techniques for Mathematics - 3 Crs.** Addresses techniques for the Instructional Assistant in assisting the classroom teacher in group and individual tutoring activities in math. Current practice including manipulatives, problem solving and assessment will be covered within the framework of state and national standards.

**522-120 IA: Techniques for Science - 3 Crs.** The course is an introduction to the content and processes of science. Strategies of teaching science will be studied and practiced and will prepare the student in assisting the classroom teacher in group and individual activities in science. Current science processes, strategies, procedures, assessment options and factors affecting science learning will be explored.

**522-122 IA: Advanced Reading and Language Arts - 3 Crs.** Schools focus on integrating reading and writing across the curriculum. In this course, students will explore how to integrate reading and writing within the content areas. Students will also gain the knowledge and skills needed to support and encourage children as independent, strategic readers as well as techniques to support children through the writing process. Children's and young adult literature, poetry and personal writing will be explored and integrated throughout this course.

**522-124 IA: Supporting Students With Disabilities - 3 Crs.** Focuses on understanding how service is delivered to students with special education needs in the classroom and through supportive and related services. A review of the law as it relates to special education, and the individual educational program, assessment and planning process will be provided. Based on the premise that all children can learn, students will examine factors which inhibit and enhance learning through a study of various instructional formats such as direct instruction, strategy instruction and task analysis. Students will engage in simulated classroom activities to explore and practice incorporating a wide array of alternative instructional techniques and programs, which can be used to support students with disabilities in all major curricular areas and to help children develop effective study skills. (Prerequisite: 522-107 IA: Overview of Special Education or dean consent)

**522-129 IA: Practicum 1 - 3 Crs.** Introduces the student to a diverse classroom setting at an elementary, middle school and/or high school level. The student will observe children and practice techniques under the guidance of a DPI certified teacher. (Prerequisite: Criminal background check)

**522-131 IA: Practicum 2 - 3 Crs.** Applies the skills learned in previous program courses in a school setting

while under the supervision of a DPI certified teacher. Students support children with special education needs and programming. Job search skills will be addressed and a professional portfolio will be completed. (Prerequisites: Completion of or concurrent enrollment in 522-129 IA: Practicum 1; criminal background check)

**522-132 IA: Positive Classroom Management Techniques - 3 Crs.** Examines the impact of issues such as divorce, alcoholism, child abuse, youth suicide, stress, violence and gangs on behavior in the classroom. Conflict resolution techniques and de-escalation strategies with an emphasis on prevention will also be examined.

**522-150 Training of Instructional Assistants for Students Who Are Deafblind - 3 Crs.** This Deafblind Training is for Deafblind Technical Assistant Project participants only. Examines the key roles and responsibilities of the instructional assistant in the development of a child who is deafblind. Participants integrate strategies that support an overall understanding of deafblindness and the intervention process.

**523-110 Introduction to Chiropractic Philosophy - 2 Crs.** Focuses on the fundamental principles upon which the practice of chiropractic is based. Emphasis is placed on the body's ability to heal itself and maintain health throughout the life of the individual. Describes the role media plays in the healthcare choices.

**523-113 Chiropractic Foundations - 3 Crs.** Explores the terminology and rationale fundamental to chiropractic care and practice. Includes subluxation structure and function, conditions secondary to subluxation and diagnostic terminology. Examines body systems associated with the chiropractic approach to healthcare. (Prerequisite: Completion of or concurrent enrollment in 523-110 Chiropractic Philosophy)

**523-125 Chiropractic Nutrition - 2 Crs.** Relates chiropractic nutrition to the total health of the patient. Explores vitamins, minerals and herbs and how they can enhance chiropractic care. Includes study of foods and how diet, together with supplementation, creates optimal health in the chiropractic patient. (Prerequisite: 523-110 Introduction to Chiropractic Philosophy)

**523-140 Chiropractic Office Procedures - 3 Crs.** Introduces the Chiropractic Technician student to front office procedures in the chiropractic health setting. Topics include telephone techniques, records management, operation of basic office equipment, basic office visit calculations and correspondence, and an introduction in promotions. Students need access to video/DVD recording equipment, audio recording equipment (cassette, CD or DVD), Microsoft Office and Microsoft Publisher. (Prerequisite: Completion of or concurrent enrollment in 523-110 Introduction to Chiropractic Philosophy)

**523-145 Chiropractic Office Management Applications - 2 Crs.** Introduces students to the skills needed to manage support staff including interviewing, hiring, training, motivating and conflict resolution. Emphasizes federal and state employment laws, HIPAA standards, as well as OSHA and universal precautions safety laws. Skills necessary to assist with staff meetings are also developed. (Prerequisite: Completion of or concurrent enrollment in Chiropractic Office Procedures Internship 523-190)

**523-151 Chiropractic Radiographic Dynamics - 3 Crs.** Prepares students in the skills of X-ray physics for applications in X-ray production, X-ray safety, X-ray processing and X-ray positioning. Applies the information and guidelines set forth by the American Chiropractic

Registry of Radiologic Technologists. (Prerequisites: Completion of or concurrent enrollment in 523-110 Introduction to Chiropractic Philosophy; 523-113 Chiropractic Foundations)

**523-155 Chiropractic Radiographic Positioning - 3 Crs.** Builds skill in positioning patients for various X-ray views. Emphasis is placed on spinal skeletal views, with overview of extremity positioning. Students work with actual X-ray equipment to build skills in taking usable X-rays and explore osseous anatomy as related to the radiographic goals of each of the views. (Prerequisites: 523-151 Chiropractic Radiographic Dynamics. Completion of or concurrent enrollment in 523-113 Chiropractic Foundations)

**523-161 Chiropractic Examination - 3 Crs.** Explores the basic aspects of a chiropractic examination. Emphasizes skills in taking patient health history and vital signs. Students gain in giving and analyzing orthopedic and neurological tests. Students experience simulated clinical settings, small group discussions and role-playing to apply examination skills. (Prerequisite: Completion of or concurrent enrollment in 523-113 Chiropractic Foundations)

**523-163 Chiropractic Radiographic and Conjunctive Therapy - 4 Crs.** Expands on the knowledge and practice of prerequisite coursework in conjunctive therapy and radiography in the chiropractic health setting. Increases student's understanding and knowledge of therapeutic modalities and radiography in the chiropractic health setting and presents the application of this information in a clinical setting. Coursework is completed in the classroom, online and at internship sites. (Prerequisites: 523-155 Chiropractic Radiographic Positioning; 523-170 Conjunctive Therapy. Completion of or concurrent enrollment in 501-101 Medical Terminology)

**523-165 Chiropractic Insurance - 3 Crs.** Explores patient accounting practices and the calculation of patient billing accounts in a variety of insurance coverage situations (general, HMO, PPO, Medicare, Medicaid, secondary and supplemental insurance). (Prerequisite: 523-140 Chiropractic Office Procedures)

**523-166 Chiropractic Insurance Applications Internship - 3 Crs.** Provides field experience in the chiropractic health setting for the student in the Chiropractic Technician program. Students participate in two separate clinical internship sites by interacting with staff and patients of the clinic and by performing entry-level tasks. (Prerequisites: 523-165 Chiropractic Insurance; 501-101 Medical Terminology; criminal background check)

**523-170 Conjunctive Therapy - 3 Crs.** Explores therapeutic procedures most common to chiropractic practice including essential theory as well as indications and contraindications for their use. Modalities studied are: electrical muscle stimulation, ultrasound, thermotherapy, cryotherapy, laser therapy, and therapeutic exercise relating to stretching, strengthening and proprioception enhancement. (Prerequisite: Completion of or concurrent enrollment in 523-113 Chiropractic Foundations)

**523-171 Chiropractic Patient Education - 3 Crs.** Explores communication topics and approaches to build public speaking skills necessary to be an effective chiropractic technician. Students develop skills in speaking techniques and investigating informational sources. All speech content focuses on chiropractic healthcare. (Prerequisite: 523-113 Chiropractic Foundations)

**523-190 Chiropractic Office Procedures Internship - 2 Crs.** Provides students with on-the-job office procedure experience in a chiropractic office setting. Expands professional insights as students share internship experiences and practice skills such as scheduling patients, collecting payments, demonstrating phone answering skills and filing records. (Prerequisites: 523-140 Chiropractic Office Procedures; criminal background check. Completion of or concurrent enrollment in 523-165 Chiropractic Insurance)

**526-149 Radiographic Anatomy and Procedures 1 - 5 Crs.** Prepares Radiography students to perform routine radiologic procedures on various parts of the body including the upper body, hip, pelvis and ankle. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. (Prerequisites: 806-177 General Anatomy and Physiology; admission to the Radiography program)

**526-150 Cross-Sectional Anatomy - 2 Crs.** Prepares students to learn cross-sectional anatomy on various parts of the body including the cranial bones, thorax, abdomen, pelvis, spine and extremities of the body. Students apply knowledge of human anatomy to correctly evaluate an image for appropriate anatomical demonstration and to identify structures and organs on a radiograph. Introduces students to types of imaging including CT and MRI.

**526-158 Introduction to Radiography - 3 Crs.** Introduces students to the role of radiography in healthcare. Students apply medical terminology, legal and ethical considerations to patient care and pharmacology in the radiologic sciences. (Prerequisites: Admission to the Radiography program; health requirements; criminal background check)

**526-159 Radiographic Imaging 1 - 3 Crs.** Introduces Radiography students to the process and components of analog imaging. Students determine the factors that affect image quality including contrast, density, detail, and distortion. (Prerequisites: Admission to the Radiography program. Completion of or concurrent enrollment in 804-106 Introduction to College Mathematics or 804-107 College Mathematics)

**526-168 Radiography Clinical 1 - 2 Crs.** This beginning-level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. (Prerequisites: Admission to the Radiography program; health requirements; criminal background check)

**526-170 Radiographic Imaging 2 - 3 Crs.** Explores film processing components as well as the principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Guidelines for selecting exposure factors and evaluating images within analog and digital systems and principles of digital system quality assurance and maintenance are presented. (Prerequisites: 526-158 Introduction to Radiography; 526-159 Radiographic Imaging 1; 526-149 Radiographic Anatomy and Procedures 1; 526-168 Radiography Clinical 1. Corequisites: 526-191 Radiographic Anatomy and Procedures 2; 526-192 Radiography Clinical 2)

**526-174 ARRT Certification Seminar - 2 Crs.** Provides preparation for the national certification examination

prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized. (Prerequisite: Admission to the Radiography program)

**526-189 Radiographic Pathology - 1 Cr.** Prepares Radiography students to determine the basic radiographic manifestations of pathological conditions. Students classify trauma related to site, complications and prognosis and locate the radiographic appearance of pathologies. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Quality Analysis; 526-196 Modalities; 526-199 Radiography Clinical 4. Corequisites: 526-190 Radiography Clinical 5; 526-197 Radiation Protection and Biology)

**526-190 Radiography Clinical 5 - 2 Crs.** This fifth-level clinical course prepares Radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Quality Analysis; 526-196 Modalities; 526-199 Radiography Clinical 4; health requirements; criminal background check. Corequisites: 526-189 Radiographic Pathology; 526-197 Radiation Protection and Biology)

**526-191 Radiographic Anatomy and Procedures 2 - 5 Crs.** Prepares Radiography students to perform routine radiologic procedures on various parts of the body including the skull and spine. Students apply knowledge of human anatomy to position the patient correctly to achieve the desired result. (Prerequisites: 526-149 Radiographic Anatomy and Procedures 1; 526-158 Introduction to Radiography; 526-159 Radiographic Imaging 1; 526-168 Radiography Clinical 1. Corequisites: 526-170 Radiographic Imaging 2; 526-192 Radiography Clinical 2)

**526-192 Radiography Clinical 2 - 3 Crs.** This second-level clinical course prepares Radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. (Prerequisites: 526-149 Radiographic Anatomy and Procedures 1; 526-158 Introduction to Radiography; 526-159 Radiographic Imaging 1; 526-168 Radiography Clinical Practice 1; health requirements; criminal background check. Corequisites: 526-170 Radiographic Imaging 2; 526-191 Radiographic Anatomy and Procedures 2)

**526-193 Radiography Clinical 3 - 3 Crs.** This third-level clinical course prepares Radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting. (Prerequisites: 526-170 Radiographic Imaging 2; 526-191 Radiographic Anatomy and Procedures 2; 526-192 Radiography Clinical 2; health requirements; criminal background check)

**526-194 Imaging Equipment Operation - 3 Crs.** Introduces Radiography students to the principles and application of X-ray technology. Students analyze how X-rays are produced and determine the corrective actions necessary for common equipment malfunctions. (Prerequisite: 526-193 Radiography Clinical 3. Corequisites: 526-195 Radiographic Quality Analysis; 526-196 Modalities; 526-199 Radiography Clinical Practice 4)

**526-195 Radiographic Quality Analysis - 2 Crs.** Prepares Radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the cause of image problems including equipment malfunctions and procedural errors. (Prerequisite: 526-193 Radiography Clinical Practice 3. Corequisites: 526-194 Imaging Equipment Operation; 526-196 Modalities; 526-199 Radiography Clinical 4)

**526-196 Modalities - 3 Crs.** Introduces Radiography students to imaging modalities with an emphasis in computed tomography and cross-sectional anatomy. (Prerequisite: 526-193 Radiography Clinical 3. Corequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Quality Analysis; 526-199 Radiography Clinical Practice 4)

**526-197 Radiation Protection and Biology - 3 Crs.** Prepares Radiography students to protect themselves and others from exposure to radioactivity. Students examine the characteristics of radiation and how radiation affects cell biology. Students apply standards and guidelines for radiation exposure. (Prerequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Quality Analysis; 526-196 Modalities; 526-199 Radiography Clinical 4. Corequisites: 526-189 Radiographic Pathology; 526-190 Radiography Clinical 5)

**526-198 Radiography Clinical 6 - 2 Crs.** This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high-quality images in the clinical setting. Students apply radiation protection and standard precautions in the production of images in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisites: 526-189 Radiographic Pathology; 526-190 Radiography Clinical 5; 526-197 Radiation Protection and Biology; health requirements; criminal background check)

**526-199 Radiography Clinical 4 - 3 Crs.** This fourth-level clinical course prepares Radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a healthcare setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. (Prerequisite: 526-193 Radiography Clinical 3. Corequisites: 526-194 Imaging Equipment Operation; 526-195 Radiographic Quality Analysis; 526-196 Modalities; health requirements; criminal background check)

**527-100 Introduction to Wastewater Treatment - 3 Crs.** Provides an overview of the different processes used in wastewater treatment plants, as well as the collection system and sludge disposal procedures. Covers calculations used to determine plant loadings, detention times and percent removal efficiencies. Environmental regulations, preventive maintenance practices and basic safety precautions are covered. (Prerequisite: Completion of or concurrent enrollment in 103-159 Computer Literacy - Microsoft Office and 103-165 Exploring the Internet With Client Software)



# COURSE DESCRIPTIONS (CONT.)

**527-103 Conventional Wastewater Treatment - 3 Crs.** Covers the basic biology, chemistry and operational controls of wastewater treatment processes: pre- and primary treatment of wastewater, activated sludge, trickling filters and RBCs (Rotating Biological Contactors). The structure and function of major equipment is explained. Various lab tests and the calculations associated with them are presented. (Prerequisites: 527-100 Introduction to Wastewater Treatment; 527-111 Water Chemistry)

**527-105 Advanced Wastewater Treatment Processes - 4 Crs.** Develops competence in management of wastewater treatment processes including disinfection, nutrient removal, tertiary filtration, and sludge handling. Uses the Internet to locate resources useful in managing wastewater treatment processes. (Prerequisites: Completion of or concurrent enrollment in 527-100 Introduction to Wastewater Treatment and 527-111 Water Chemistry)

**527-111 Water Chemistry - 4 Crs.** Explores basic chemical concepts and principles such as elements, compounds, states of matter and reactions that are applicable to evaluating and regulating water quality and applies them to water and wastewater treatment. Students also examine laboratory techniques, equipment, quality assurance and recordkeeping and reporting. (Prerequisites: 527-100 Introduction to Wastewater Treatment; 527-130 Groundwater Supply and Distribution; 804-106 Introduction to College Mathematics or 804-107 College Mathematics)

**527-117 Zeolite Softening, Volatile Organic Compound and Iron Removal - 1 Cr.** Provides information and procedures necessary to treat water with excessive levels of calcium and magnesium. Addresses mineral source, treatment options, mechanisms of cation exchange and laboratory control. Designed for students already having experience at a treatment facility who are seeking WDNR certification.

**527-118 Utility Management 1 - 1 Cr.** Provides utility and industry personnel with insight into the need for effective management, planning, organizing and staffing. Essential elements of effective oral and written communications, public relations programs and policy development will be a focus during this course. The course also will include discussion regarding financial management and maintaining financial strength and stability of a utility. Designed for students already having experience at a treatment facility or in a utility who are seeking continuing education.

**527-119 Utility Management 2 - 1 Cr.** Provides management personnel with concepts that promote problem identification and solution through working together as a team, utilizing communication and motivation. The course will cover human relations, training and teaching skills, problem-solving skills and decision making. Technical subjects such as regulations, emergency planning, and health and safety programs also will be discussed. Designed for students already having experience at a treatment facility or in a utility who are seeking continuing education.

**527-120 Hydraulics of Water and Wastewater - 3 Crs.** Provides information and procedures necessary to predict and manipulate the hydraulics of water transmission and collection. The primary work assignments involve the reading and use of hydraulic principles and then applying them in a real-life case analysis as a laboratory project. (Prerequisites: 527-130 Groundwater Supply and Distribution; 804-106 Introduction to College Mathematics or 804-107 College Mathematics)

**527-125 Industrial Wastes - 3 Crs.** Focuses on the control of wastewater resulting from the processing of a variety of industrial materials. Methods of waste initiation; impact; minimization; and the treatment of waste process streams of metal, pulp and paper, and food and beverage industry operations are emphasized and analyzed. (Prerequisites: 527-100 Introduction to Wastewater Treatment; 527-103 Conventional Wastewater Treatment)

**527-130 Groundwater Supply and Distribution - 3 Crs.** Provides environmental and treatment information necessary to operate a potable groundwater well system. Basic distribution system design and component use will also be detailed. Students examine a groundwater treatment plant and make operational assessments based on established industry criteria. (Prerequisites: Completion of or concurrent enrollment in 103-159 Computer Literacy - Microsoft Office and 103-165 Exploring the Internet With Client Software)

**527-131 Surface Water Supply and Treatment - 3 Crs.** Determines operational procedures necessary to produce a safe and aesthetically appropriate water supply for human consumption. Students recommend designs for water treatment plants based on established industry criteria. Basic preventive maintenance and safety programs customized to students' designed facilities are also developed. (Prerequisites: Completion of or concurrent enrollment in 527-111 Water Chemistry and 527-130 Groundwater Supply and Distribution)

**527-132 Surface Water Certification - 1 Cr.** Focuses on operational procedures necessary to produce safe and aesthetically acceptable water for human consumption. Methods of handling human and natural environmental contamination of raw water is emphasized and analyzed. Specific treatment technologies include preliminary processes, coagulation, flocculation, sedimentation, filtration and chemical conditioning. Designed for students already having experience at a treatment facility who are seeking WDNR certification.

**527-133 Groundwater Supply and Distribution Certification - 3 Crs.** Provides environmental and treatment information necessary to operate a potable groundwater well system. Basic distribution system design and component use also will be detailed. Students make operational assessments of a groundwater treatment plant based on established industry criteria. Designed for students already having experience at a treatment facility who are seeking DNR certification.

**527-136 Equipment Maintenance and Instrumentation - 4 Crs.** Develops skills in the identification and application of tools, correcting facility and system mechanical problems, and understanding the complete concept of preventative and predictive maintenance. Students will research preventative and predictive maintenance systems. Also, skills will be developed using instrumentation for process control. Supervisory Control and Data Acquisition (SCADA), including control diagrams, designs and applications will be studied. (Prerequisites: 527-100 Introduction to Wastewater Treatment; 527-111 Water Chemistry; 527-130 Groundwater Supply and Distribution)

**527-137 Distribution Certification - 1 Cr.** Provides skills and knowledge to effectively operate a potable water distribution system. Students explore regulations, chemistry, system components, cross-connections, mathematics and laboratory work. This course also addresses the WDNR Classification D certification objective for those who desire information necessary to achieve this certification.

**527-150 Advanced Water Treatment - 3 Crs.** Advanced processes and treatments studied during this course include iron, manganese and radium removal, zeolite softening, VOC removal, disinfection precursor and disinfection-by-product reduction, alternative disinfectants, demineralization, lime-softening, and new and emerging technologies. (Prerequisites: 527-100 Introduction to Wastewater Treatment; 527-111 Water Chemistry; 527-130 Groundwater Supply and Distribution; 527-131 Surface Water Supply and Treatment)

**527-171 Water Quality Internship - 3 Crs.** Provides an on-the-job learning experience. With direction of an employer and supervision of a Moraine Park instructor, the intern performs duties of a water/wastewater operator in a water/wastewater facility. The intern spends 216 hours working in a municipal, industrial or environmental setting. (Prerequisites: 527-105 Advanced Wastewater Treatment Processes; 527-120 Hydraulics of Water and Wastewater; 527-131 Surface Water Supply and Treatment)

**530-112 Disease Process and Treatment - 4 Crs.** Focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasizes understanding the etiology (cause), signs and symptoms, diagnostic tests and treatment (including pharmacologic) of each disease. (Prerequisites: Completion of or concurrent enrollment in 501-101 Medical Terminology; 806-177 General Anatomy and Physiology or 806-189 Basic Anatomy)

**530-120 Careers in Allied Health - 3 Crs.** Explores career possibilities within the Allied Health Care industry. Students examine the characteristics and skills needed for a wide range of careers in healthcare. Students gain perspective about what it takes to be an effective team member working in healthcare. Focuses on nursing, health management, laboratory technology, health information technology, therapy, diagnostics, dental, surgical and other healthcare-related careers.

**530-151 Medical Transcription Profession - 1 Cr.** Provides insight into a medical transcription career through examination of the skills and attributes needed by medical transcriptionists, career opportunities, AHDI membership, certification, continuing education options, legal and ethical responsibilities for medical transcriptionists, and the present as well as projected future impacts of technology in this field.

**530-172 Healthcare Delivery Systems - 2 Crs.** Examines the organization, financing, regulation and delivery of healthcare services. Includes the study of healthcare professionals.

**530-176 Health Data Management - 2 Crs.** Introduces the use and structure of healthcare data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing. (Prerequisites: Completion of or concurrent enrollment in 530-172 Healthcare Delivery Systems; 530-181 Introduction to the Health Record)

**530-177 Healthcare Statistics and Research - 2 Crs.** Explores the management of medical data for statistical purposes. Focuses on descriptive statistics, including definitions, collection, calculation, compilation and display of numerical data. Vital statistics, registries and research are examined. (Prerequisite: Completion of or concurrent enrollment in 530-176 Health Data Management)

**530-178 Healthcare Legal and Ethical Issues - 2 Crs.** Examines regulations for the content, use, confidentiality, disclosure and retention of health information. An overview of the legal system and ethical issues are addressed. (Prerequisite: 530-176 Health Data Management)

**530-181 Introduction to the Health Record - 1 Cr.** Prepares students to illustrate the flow of health information in various healthcare delivery systems and within the health information department. Prepares students to retrieve data from health records. Professional ethics, confidentiality and security of information are emphasized.

**530-182 Human Diseases for the Health Professions - 3 Crs.** Focuses on the common diseases of each body system as encountered in all types of healthcare settings by health information professionals. Emphasizes understanding the etiology (cause), signs and symptoms, diagnostic tests and treatment (including pharmacologic) of each disease. (Prerequisites: Completion of or concurrent enrollment in 501-101 Medical Terminology; 806-177 General Anatomy and Physiology or 806-189 Basic Anatomy)

**530-183 ICD Coding - 3 Crs.** Prepares students to assign ICD CM codes supported by medical documentation with entry-level proficiency. Students apply ICD CM instructional notations, conventions, rules and official coding guidelines when assigning ICD CM codes to case studies and actual medical record documentation. (Prerequisites: Completion of or concurrent enrollment in 530-112 Disease Process and Treatment; 530-181 Introduction to the Health Record)

**530-184 CPT Coding - 3 Crs.** Prepares students to assign CPT codes, supported by medical documentation, with entry-level proficiency. Students apply CPT instructional notations, conventions, rules and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. (Prerequisites: Completion of or concurrent enrollment in 530-112 Disease Process and Treatment; 530-181 Introduction to the Health Record)

**530-185 Healthcare Reimbursement - 2 Crs.** Prepares students to compare and contrast healthcare payers, illustrate the reimbursement cycle and to comply with regulations related to fraud and abuse. Students assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs) and Resource Utilization Groups (RUGs) with entry-level proficiency using computerized encoding and grouping software. (Prerequisites: 530-183 ICD Coding; 530-184 CPT Coding)

**530-190 Healthcare Information Systems - 3 Crs.** Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business and health information software applications. Students develop skills to assist in information systems design and implementation. (Prerequisites: 106-138 Computer Essentials; 501-107 Introduction to Computing in Healthcare; 530-176 Health Data Management. Completion of or concurrent enrollment in 103-181 Microsoft Access)

**530-193 Healthcare Quality Management - 2 Crs.** Explores the programs and processes used to maintain quality in healthcare. Addresses regulatory requirements as related to quality improvement, utilization (case) management, risk management and medical staff credentialing through the use of quality improvement methodologies and tools. (Prerequisite: 530-177 Healthcare Statistics and Research)

**530-194 HIM Organizational Resources - 2 Crs.** A study of the principles of management to include planning, organizing, human resource management, directing and controlling as related to the health information department. (Prerequisite: Completion of or concurrent enrollment in 530-193 Healthcare Quality Management)

**530-195 Applied Coding - 2 Crs.** Prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with intermediate level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize appropriate reimbursement. (Prerequisite: Completion of or concurrent enrollment in 530-185 Healthcare Reimbursement)

**530-196 Professional Practice Experience 1 - 3 Crs.** The first of a two-semester sequence of supervised clinical experiences in healthcare facilities. Provides application of previously acquired skills and knowledge with clinical experiences in the technical procedures of health record systems and discussion of clinical situations. (Prerequisites: 530-178 Healthcare Legal and Ethical Issues. Completion of or concurrent enrollment in 530-177 Healthcare Statistics and Research; 530-183 ICD Coding; 530-184 CPT Coding; criminal background check; proof of immunizations)

**530-198 Professional Practice Experience 2 - 3 Crs.** The second of a two-semester sequence of supervised technical and managerial clinical experiences in healthcare facilities. This course provides application of previously acquired skills and knowledge, and discussion of clinical situations, preparation for the certification examination and pregraduation activities. (Prerequisites: 530-196 Professional Practice Experience 1. Completion of or concurrent enrollment in 530-190 Healthcare Information Systems; 530-194 HIM Organizational Resources; 530-195 Applied Coding. Criminal background check update; proof of immunizations; should be taken in semester of graduation)

**530-313 Medical Transcription Basics - 2 Crs.** Builds a foundation for transcribing medical reports and correspondence. Emphasizes English grammar and punctuation usage, style and report format as presented in The AHDI Book of Style for Medical Transcription. Provides practice in the use of medical transcription software and reference materials. (Prerequisites: Keyboarding pretest. Completion of or concurrent enrollment in 501-101 Medical Terminology; 530-151 Medical Transcription Profession; 806-177 General Anatomy and Physiology or 806-189 Basic Anatomy)

**530-324 Beginning Medical Transcription - 3 Crs.** Applies the principles and skills from Medical Transcription Basics to transcription of dictated reports in dermatology, neurology, cardiology, pulmonary medicine, otorhinolaryngology, ophthalmology, orthopedics, endocrinology, urology, obstetrics and gynecology, and gastroenterology. Provides experience transcribing chart notes (paragraph and SOAP formats), correspondence, ER reports, history and physical reports, consultations and discharge summaries. Emphasis is on accuracy of transcribed reports. (Prerequisite: 530-313 Medical Transcription Basics)

**530-325 Advanced Medical Transcription - 4 Crs.** Provides in-depth experience transcribing history and physical reports, discharge summaries, operative reports, and procedures in the specialty fields of cardiology, gastroenterology and orthopedics. Provides experience transcribing reports in the specialties of radiology and pathology. Continues development of accuracy. Speed is

enhanced utilizing software to create and apply medical transcription shortcuts. (Prerequisites: 530-324 Beginning Medical Transcription. Concurrent enrollment in 530-182 Human Diseases for the Health Professions)

**530-399 Medical Transcription Simulated Internship - 3 Crs.** Provides experience transcribing, editing, and reviewing medical documents through virtual internship in a simulated remote medical transcription environment. Prepares for entry-level employment by supporting transition from student to professional. Prepares student to obtain RMT credential and facilitates professional networking through student membership in the Association for Healthcare Documentation Integrity (AHDI). (Prerequisites: 530-324 Beginning Medical Transcription. Completion of or concurrent enrollment in 530-325 Advanced Medical Transcription; criminal background check. Students must be eligible for graduation from the MT program the semester they enroll in Simulated Internship.)

**531-151 Paramedic Fundamentals - 5 Crs.** Provides students with the basic knowledge of the EMS system, roles and responsibilities, well-being of the paramedic, illness and injury prevention, medical-legal aspects, ethics, general principles, pathophysiology, therapeutic communications, history taking, physical exam techniques, patient assessment, clinical decision making, verbal communication and documentation. Students gain an understanding of the basic principles of shock management. Admission into the Paramedic program is required. (Prerequisites: Concurrent enrollment in 531-152 Paramedic Pharmacology; 531-155 Respiratory Management; 531-156 Cardiology I; 531-157 Clinical I - EMT/Paramedic)

**531-152 Paramedic Pharmacology - 4 Crs.** Provides students the opportunity to develop the knowledge of basic pharmacodynamics. Students gain knowledge and skills required to safely and precisely access the venous circulation, and to select, prepare, and administer appropriate medications used in the treatment of disorders of the major body systems. (Prerequisites: Concurrent enrollment in 531-151 Paramedic Fundamentals; 531-155 Respiratory Management; 531-156 Cardiology I; 531-157 Clinical I - EMT/Paramedic)

**531-155 Respiratory Management - 2 Crs.** Provides students with the knowledge and skills to establish and/or maintain a patient airway, oxygenate, and ventilate a patient. (Prerequisites: Concurrent enrollment in 531-151 Paramedic Fundamentals; 531-152 Paramedic Pharmacology; 531-156 Cardiology I; 531-157 Clinical I - EMT/Paramedic)

**531-156 Cardiology I - 3 Crs.** Provides students with the basic knowledge and skills to integrate pathophysiological principles and assessment findings, with ECG interpretations, in order to formulate a field impression and implement the treatment for the patient with cardiovascular disease. (Prerequisites: Concurrent enrollment in 531-151 Paramedic Fundamentals; 531-152 Paramedic Pharmacology; 531-155 Respiratory Management; 531-157 Clinical I - EMT/Paramedic)

**531-157 Clinical I - EMT/Paramedic - 4 Crs.** Requires students to complete 288 hours of documented practical skills application and observation at the beginning EMT/Paramedic level. Students perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor. (Prerequisites: Concurrent enrollment in 531-151 Paramedic Fundamentals; 531-152 Paramedic Pharmacology; 531-155 Respiratory Management; 531-156 Cardiology I)

# COURSE DESCRIPTIONS (CONT.)

**531-158 Cardiology II - 3 Crs.** Provides students with the knowledge and skills to integrate a field impression and implement a treatment plan for a patient with Acute Coronary Syndromes (ACS) and includes Advanced Cardiac Life Support (ACLS) Certification. Students gain an understanding of basic 12 lead ECG interpretation as it applies to the treatment for a patient with ACS. (Prerequisites: 531-156 Cardiology I; 531-157 Clinical I - EMT/Paramedic; Concurrent enrollment in 531-159 Medical Emergencies; 531-164 Paramedic Trauma; 531-165 Emergency Care for Specialists; 531-166 EMS Operations; 531-167 Clinical II - EMT/Paramedic)

**531-159 Medical Emergencies - 3 Crs.** Provides students with knowledge and skills to integrate pathophysiological principles and assessment findings to formulate a field impression and implement a treatment plan for patients experiencing neurology, endocrine, allergic or anaphylactic emergencies, gastroenterology, renal/urology, toxicology, hematology, environmental emergencies, infectious and communicable diseases, and behavioral and psychiatric disorders. (Prerequisites: Concurrent enrollment in 531-158 Cardiology II; 531-164 Paramedic Trauma; 531-165 Emergency Care for Specialists; 531-166 EMS Operations; 531-167 Clinical II - EMT/Paramedic)

**531-164 Paramedic Trauma - 3 Crs.** Provides students with the knowledge and skills to integrate the principles of kinematics to enhance the patient assessment and predict the likelihood of injuries based on the patient's mechanism of injury. Includes soft tissue trauma, burns, head and facial trauma, spinal trauma, abdominal trauma, thoracic trauma, and mechanism of injury trauma systems. Includes Prehospital Trauma Life Support (PHTLS) Certification. (Prerequisites: Concurrent enrollment in 531-158 Cardiology II; 531-159 Medical Emergencies; 531-165 Emergency Care for Specialists; 531-166 EMS Operations; 531-167 Clinical II - EMT/Paramedic)

**531-165 Emergency Care for Specialists - 3 Crs.** Provides students with the knowledge and skills to formulate a field impression and implement a treatment management plan for the patient experiencing a gynecology, obstetrical, neonatal, pediatric or geriatric emergency. Covers the victim of abuse or assault, patients with special challenges, acute interventions in the home care patient and life span development. Includes Pediatric Advanced Life Support (PALS) and Neonatal (NALS) Certification. (Prerequisites: Concurrent enrollment in 531-158 Cardiology II; 531-159 Medical Emergencies; 531-164 Paramedic Trauma; 531-166 EMS Operations; 531-167 Clinical II - EMT/Paramedic)

**531-166 EMS Operations - 3 Crs.** Includes ambulance operations, medical incident command, rescue awareness, weapons of mass destruction, assessment-based management and NREMT-P preparation. (Prerequisites: Concurrent enrollment in 531-158 Cardiology II; 531-159 Medical Emergencies; 531-164 Paramedic Trauma; 531-165 Emergency Care for Specialists; 531-167 Clinical II - EMT/Paramedic)

**531-167 Clinical II - EMT/Paramedic - 3 Crs.** Students are required to complete 216 hours of documented practical skills application and observation at the beginning EMT/Paramedic level. Students perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor. (Prerequisites: 531-157 Clinical I - EMT/Paramedic. Concurrent enrollment in 531-158 Cardiology II; 531-159 Medical Emergencies; 531-164

Paramedic Trauma; 531-165 Emergency Care for Specialists; 531-166 EMS Operations)

**531-301 Emergency Medical Technician - Basic - 4 Crs.** Students gain skills to assess a scene for hazards, assess both sick and injured patients, apply needed care, and transport patients to appropriate facilities. Includes training in WMD Hazardous Material, First Responder, Terrorism and Weapons of Mass Destruction. (Prerequisites: Students will need current CPR for Healthcare Provider certification or equivalent; caregiver background check; proof of immunizations for ride-alongs. Students must be 18 years of age at the conclusion of the course to be eligible for licensure.)

**531-304 EMT - Intermediate Technician - 3 Crs.** Students gain skills in IV access and fluid therapy as well as administration of aspirin, 50% dextrose, narcan, atrovant, epinephrine and nitroglycerine. Meets state EMT - Intermediate Technician licensure requirements. A State of Wisconsin EMT - Basic License is required to enroll in this course. (Prerequisite: 531-301 Emergency Medical Technician - Basic)

**531-465 Heartsaver First Aid/CPR - .05 - .20 Cr.** Provides training for adults, children and infants in CPR and FBAO skills and skills in splinting, wound care and bandaging. This course meets the requirements for apprenticeship.

**533-126 Beginning American Sign Language - 3 Crs.** Introduces the fundamentals of American Sign Language (ASL) used by the deaf community, including basic vocabulary, syntax, fingerspelling and grammatical nonmanual signals. Develops gestural skills as a foundation for ASL enhancement. Introduces cultural knowledge and increases appreciation of the deaf community.

**533-127 Intermediate American Sign Language - 3 Crs.** Emphasizes fundamentals of American Sign Language (ASL) used by the deaf community. Vocabulary and sentence structures needed to communicate in common life situations are developed. Explores cultural knowledge and increases appreciation of the deaf community. (Prerequisite: 533-126 Beginning American Sign Language)

**536-110 Pharmaceutical Calculations (Lakeshore Technical College Course) - 3 Crs.** Prepares the student to enlarge and reduce formulas and solve proportions, dilutions, allegations, and other calculations pertinent to the preparation of pharmaceuticals using metric, apothecary, avoirdupois, and household measuring systems. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-112 Pharmacy Business Applications (Lakeshore Technical College Course) - 3 Crs.** Prepares the student to utilize pharmaceutical business terminology, procedures, customer service, record keeping, purchasing procedures, inventory control systems, pricing, merchandising, reference materials, ethics, roles, responsibilities, and relationships with patients and coworkers. (Corequisite: 10536138 Pharmacy Community Clinical; CONDITION: 315361 Pharmacy Technician Admissions Requirements Met)

**536-115 Pharmacy Law (Lakeshore Technical College Course) - 2 Crs.** Introduces the student to federal and state regulations that apply to pharmacy practice. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-120 Fundamentals of Reading Prescriptions (Lakeshore Technical College Course) - 1 Cr.** Prepares the student to work in a community or hospital pharmacy by exploring the role of a pharmacy technician within the healthcare team; examining each step in the prescription filling process; and identifying the top 200 drugs by brand and generic name and therapeutic class. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-122 Pharmacology (Lakeshore Technical College Course) - 3 Crs.** Enhances the student's ability to act and react appropriately in the pharmacy by learning how drugs work through examination of the anatomy, physiology, pathophysiology, and drug therapy for each of the major systems. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-124 Pharmacy Drug Distribution Systems (Lakeshore Technical College Course) - 1 Cr.** Is an introductory study of the basic drug distribution systems used in community and institutional pharmacy, including automation technology, pharmacist and pharmacy technician roles, and dispensing considerations. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-126 Pharmacy Parenteral Admixtures (Lakeshore Technical College Course) - 3 Cr.** Provides the student with the skills to utilize aseptic technique in vertical and horizontal laminar flow hoods for preparation of solutions and medications to be administered intravenously, intramuscularly, subcutaneously, and intradermally to patients. (Prerequisites: 10536110 Pharmaceutical Calculations. CONDITION: 315361 Pharmacy Technician Admission Requirements Met)

**536-134 Pharmacy Benefits - Managing (Lakeshore Technical College Course) - 3 Cr.** Introduces the student to third party reimbursement terminology, costs, pricing schedules, formularies, cognitive services billing, and medical coverage provided by government agencies. (Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-138 Pharmacy Community Clinical (Lakeshore Technical College Course) - 2 Cr.** Provides hands-on experience in a community pharmacy for 108 hours during quarter two. Areas of instruction include interpretation of prescriptions, entering prescriptions on computer, patient profiles, correctly filling and labeling prescriptions, billing patient and third parties, customer service, over-the-counter medications, purchasing, checking in deliveries, and inventory control, compounding and patient confidentiality. (Corequisites: 10536120 Fund of Reading Prescriptions; 10536112 Pharmacy Business Applications; 10536110 Pharmaceutical Calculations; 10536134 Pharmacy Benefits-Managing. Condition: 315361 Pharmacy Technician)

**536-140 Pharmacy Hospital Clinical (Lakeshore Technical College Course) - 3 Crs.** Provides the student with the skills to prepare parenteral admixtures, fill medication carts and unit-dose drawers, control inventory, package medications, and maintain patient records in the hospital setting. (Prerequisites: 10536138 Pharmacy Community Clinical; 10536110 Pharmacy Calculations. Corequisites: 10536141 Hospital Clinical Lab; 10536126 Pharmacy Parenteral Admixtures. Condition: 315361 Pharmacy Technician Admission Requirements Met)

**536-14 Hospital Clinical Lab (Lakeshore Technical College Course) - 2 Crs.** Provides the student with the skills to utilize aseptic technique in vertical and horizontal laminar flow hoods for preparation of solutions and medications to be administered intravenously, intramuscularly, subcutaneously, and intradermally to patients and provides experience with institutional drug delivery systems including the unit-dose system. (Prerequisite: 10536138 Pharmacy Community Clinical. Corequisites: 10536140 Pharmacy Hospital Clinical; 10536126 Pharmacy Parenteral Admixtures. Condition: 315361 Pharmacy Technician Admissions Requirements Met)

**536-142 Pharmacy Community Clinical-Advanced (Lakeshore Technical College Course) - 2 Crs.** Expands the students ability to support community pharmacy services in areas of diabetes services, immunization programs, durable medical equipment, automated dispensing systems, patient education, and over-the-counter products, in addition to traditional community services. This course involves a hands-on component in a community pharmacy and a research component. (Prerequisites: 10536138 Pharmacy Community Clinical. Condition: 315361 Pharmacy Technician Admission Requirements Met)

**543-101 Nursing Fundamentals - 2 Crs.** Focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse client populations. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of clients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument and fluid/electrolyte balance. (Prerequisite: 806-179 Advanced Anatomy and Physiology)

**543-102 Nursing Skills - 3 Crs.** Focuses on development of clinical skills and physical assessment across the lifespan. Includes mathematical calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enternal tubes, basic medication administration, glucose testing, enemas, ostomy care and catheterization. Also includes techniques related to obtaining a health history and basic physical assessment skills using a body-systems approach. (Prerequisite: 806-179 Advanced Anatomy and Physiology)

**543-103 Nursing Pharmacology - 2 Crs.** Introduces the principles of pharmacology, including drug classifications and their effects on the body, and emphasizes the use of the nursing process when administering medications. (Prerequisite: 806-179 Advanced Anatomy and Physiology)

**543-104 Nursing: Introduction to Clinical Practice - 2 Crs.** Emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Focuses on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation and medication administration. (Prerequisites: Completion of or concurrent enrollment in 543-101 Nursing Fundamentals; 543-102 Nursing Skills; 543-103 Nursing Pharmacology. Health requirements; criminal background check; CPR)

**543-105 Nursing Health Alterations - 3 Crs.** Elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. Students apply theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking.

Students also study conditions affecting different body systems and apply therapeutic nursing interventions. Concepts of leadership, team building and scope of practice are also introduced. (Prerequisite: 543-104 Nursing: Introduction to Clinical Practice)

**543-106 Nursing Health Promotion - 3 Crs.** Focuses on topics related to health promotion for individuals and families throughout the lifespan. Covers the developing family, which includes reproductive issues, pregnancy, labor and delivery, postpartum, the newborn, and the child. Explores the spectrum of healthy families to discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. Emphasizes teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles and stages of development. (Prerequisites: 543-104 Nursing: Introduction to Clinical Practice; 809-188 Developmental Psychology)

**543-107 Nursing: Clinical Care Across the Lifespan - 2 Crs.** Applies nursing concepts and therapeutic interventions to clients across the lifespan. Provides an introduction to concepts of teaching and learning. Emphasizes extending care to include the family. (Prerequisites: Completion of or concurrent enrollment in 543-105 Nursing Health Alterations. Health requirements; criminal background check; CPR)

**543-108 Nursing: Introduction to Clinical Care Management - 2 Crs.** This clinical experience applies nursing concepts and therapeutic nursing interventions to groups of clients across the lifespan. It also provides an introduction to leadership, management and team building. (Prerequisites: Completion of or concurrent enrollment in 543-106 Nursing Health Promotion. Health requirements; criminal background check; CPR)

**543-109 Nursing: Complex Health Alterations 1 - 3 Crs.** Prepares students to expand knowledge from previous courses in caring for clients across the lifespan with alterations in cardiovascular, respiratory, endocrine and hematologic systems, as well as clients with fluid/electrolyte and acid-base imbalance and alterations in comfort. (Prerequisites: 543-107 Nursing: Clinical Care Across the Lifespan; 543-108 Nursing: Introduction to Clinical Care Management. Completion of or concurrent enrollment in 806-197 Microbiology. LPN to ADN Progression students are required to have completed 543-117 Nursing Bridge to ADN)

**543-110 Nursing: Mental Health and Community Concepts - 2 Crs.** Focuses on the delivery of community and mental healthcare. Specific health needs of individuals, families and groups are addressed across the lifespan. Attention is given to diverse and at-risk populations. Mental health concepts concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources are examined in relation to specific types of support offered to racial, ethnic and economically diverse individuals and groups. (Prerequisites: 543-107 Nursing: Clinical Care Across the Lifespan; 543-108 Nursing: Introduction to Clinical Care Management. Completion of or concurrent enrollment in 806-197 Microbiology. LPN to ADN Progression students are required to have completed 543-117 Nursing Bridge to ADN)

**543-111 Nursing: Intermediate Clinical Practice - 3 Crs.** Develops the RN role when working with clients with complex healthcare needs. Focuses on developing skills needed for managing multiple clients across the

lifespan and priorities. Using the nursing process, students gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. (Prerequisites: 543-112 Nursing Advanced Skills. Completion of or concurrent enrollment in 543-109 Nursing: Complex Health Alterations 1; 543-110 Nursing: Mental Health and Community Concepts. Health requirements; criminal background check; CPR)

**543-112 Nursing Advanced Skills - 1 Cr.** Focuses on the development of advanced clinical skills. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion. (Prerequisites: 543-107 Nursing: Clinical Care Across the Lifespan; 543-108 Nursing: Introduction to Clinical Care Management. LPN to ADN Progression students are required to have completed 543-117 Nursing Bridge to ADN)

**543-113 Nursing: Complex Health Alterations 2 - 3 Crs.** Prepares students to expand knowledge and skills from previous courses in caring for clients across the lifespan with alterations in the immune, neurosensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and reproductive systems. Focuses on management of care for clients with high-risk perinatal conditions, high-risk newborns and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/life-threatening situations. (Prerequisite: 543-111 Nursing: Intermediate Clinical Practice)

**543-114 Nursing: Management and Professional Concepts - 2 Crs.** Covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice. (Prerequisite: 543-111 Nursing: Intermediate Clinical Practice)

**543-115 Nursing: Advanced Clinical Practice - 3 Crs.** Provides an opportunity for students to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations across the lifespan. Students will have the opportunity to further develop critical thinking skills using the nursing process in making clinical decisions. Continuity of care through interdisciplinary collaboration is emphasized. (Prerequisites: Completion of or concurrent enrollment in 543-113 Nursing: Complex Health Alterations 2. Health requirements; criminal background check; CPR)

**543-116 Nursing Clinical Transition - 2 Crs.** Prepares students to assume the role of graduate nurse. Promotes clinical decision making, delegation and collaboration to achieve client and organizational outcomes. Continued professional development is fostered. (Prerequisites: 543-115 Nursing: Advanced Clinical Practice. Completion of or concurrent enrollment in 543-114 Nursing: Management and Professional Concepts. Health requirements; criminal background check; CPR)

**543-117 Nursing Bridge to ADN - 2 Crs.** Emphasizes the transition from year one of the nursing program to year two of the ADN program. Focuses on competencies that enhance student success in year two of the ADN program. Students must have Wisconsin Licensure as a Practical Nurse and acceptance into the LPN to ADN Progression program OR current enrollment in second semester of the ADN program with intent to continue into the second year. (Prerequisites: Completion of or concurrent enrollment in 543-107 Nursing: Clinical Care Across the Lifespan; 543-108 Nursing: Introduction to Clinical Care Management. Dean consent; acceptance in LPN to ADN Progression program)

# COURSE DESCRIPTIONS (CONT.)

## **543-120 Pathophysiology for Nurses - 3 Crs.**

Examines basic concepts of alterations in physiology of the human body. These alterations are the basis for disease states in humans. Serves as a foundation to increase knowledge of diseases that will be further studied in the core nursing courses. Covers the cell, injury and inflammation, immunity, fluid and electrolyte balance, acid-base balance, abnormal cell growth, and other body system alterations. (Prerequisite: 806-179 Advanced Anatomy and Physiology)

## **543-121 Jumpstart Critical Thinking - 1 Cr.**

Promotes critical thinking skills to improve your nursing practice. Examines the nursing process, focused health assessments, simulation experiences and test-taking strategies. (Prerequisite: 543-102 Nursing Skills)

## **543-122 Integrated Nursing Concepts - 2 Crs.**

Focuses on basic nursing concepts that prepare for professional nursing examinations including the Pre-Entrance RN Examination. Verbal skills, reading comprehension, mathematics and science will be of focus for review. Assists with developing test-taking strategies and a study plan for nursing examinations. The course also explores the nursing profession as a career.

## **543-125 Survival Skills for Nursing Students - 1 Cr.**

Assists nursing students in meeting the challenges of being a nursing student. Students gain practical tips and information to help in coping with and succeeding in the nursing program.

## **543-160 Nursing Assistant Instructor Training - 1 Cr.**

Examines effective teaching strategies to use for the adult student. Emphasizes state and college requirements for teaching the nursing assistant course. Discusses different types of lesson plans and learning activities that can be used to reach students with a variety of learning styles. Students must have a State of Wisconsin Registered Nurse License and a minimum of two years' work experience as an RN, with a minimum of one year experience in long-term care or home healthcare working with elderly clients.

## **543-191 Interpreting Diagnostic Studies 1 - 1 Cr.**

Focuses on the interpretation of diagnostic studies used for disorders of the genitourinary, gastrointestinal, reproductive, cardiac, respiratory, endocrine, and musculoskeletal systems, and the immunology and hematology of the human body with emphasis on the application of the nursing process across the lifespan. (Prerequisites: 543-101 Nursing Fundamentals; 543-103 Nursing Pharmacology or RN, GN or LPN status)

## **543-192 Interpreting Diagnostic Studies 2 - 1 Cr.**

Focuses on the interpretation of diagnostic studies of fluids and electrolytes, the hematologic, endocrine, cardiovascular, and respiratory systems of the human body with emphasis on the application of the nursing process across the lifespan. (Prerequisite: Completion of or concurrent enrollment in 543-105 Nursing Health Alterations or RN, GN or LPN status)

## **543-193 Interpreting Diagnostic Studies 3 - 1 Cr.**

Focuses on interpretation of diagnostic studies of the reproductive, neurological, gastrointestinal, genitourinary and musculoskeletal systems, and infectious disease and cancer with emphasis on the application of the nursing process across the lifespan. (Prerequisite: Completion of or concurrent enrollment in 543-109 Nursing: Complex Health Alterations 1 or RN, GN or LPN status)

## **543-194 Nurse Externship - 2 Crs.**

Provides the student with on-the-job nursing experiences in various work settings. Works under the supervision of a preceptor in a chosen healthcare facility. Enhances insight into the

nursing profession and reinforces nursing skills. Allows students to analyze different policies, procedures, nursing styles and facility standards. (Prerequisites: LPN externs must have completed 543-104 Nursing: Introduction to Clinical Practice. ADN students must have completed 543-107 Nursing: Clinical Care Across the Lifespan; 543-108 Nursing: Introduction to Clinical Care Management or dean consent)

**543-300 Nursing Assistant - 3 Crs.** Prepares men and women for work in the healthcare field as nursing assistants. Student nursing assistants learn basic nursing and communication skills. Upon completion of the course, students are eligible to take the exam for registration on the Wisconsin Nurse Aide Registry. This course is a prerequisite for entrance into the Nursing - Associate Degree With a Practical Nursing Exit Point program. (Prerequisites: Students must be 16 years old; completed Health Information form; criminal background check)

## **543-302 Nursing Assistant Advanced - 2 Crs.**

Intermediate-level nursing assistant skills prepare graduates for employment in acute care settings as a nursing assistant. Students should have one year of employment as a nursing assistant. (Prerequisites: 543-333 Basic Nursing Assistant or 543-300 Nursing Assistant. Active on the Wisconsin Nurse Aide Registry)

## **543-334 Acute Care - Nursing Assistant - 2 Crs.**

Intermediate-level nursing assistant skills prepare graduates for employment in acute care settings as a nursing assistant. Students should have one year of employment as a nursing assistant. (Prerequisites: 543-333 Basic Nursing Assistant or 543-300 Nursing Assistant. Active on the Wisconsin Nurse Aide Registry)

## **550-106 Physiological Complications and Psychopharmacology - 3 Crs.**

Examines the physiological, neurophysiological and biological effects of alcohol and other drugs. Examines the theories regarding the etiology of substance use disorders. Examines the context of drugs and abuse in American culture. You will list the classes of drugs, distinguish the classification of drugs, identify signs and symptoms of abuse, and examine the diagnostic criteria for substance use disorders. Highly recommend 801-195 Written Communication prior to this course.

## **550-112 Client Rights, Confidentiality and Ethics - 3 Crs.**

Gives students the basis for formulating ethical decisions within the broad limits of professional codes and diverse theoretical positions in order to further the best interests of their clients. Introduces students to the current statutes, regulations and judicial decisions that govern the professional practice of substance use disorder counseling. Highly recommend 801-195 Written Communication prior to this course.

## **550-121 Introduction to Substance Abuse Treatment - 4 Crs.**

Explores the core components of substance use disorder treatment including the history and development of treatment, treatment modalities, the continuum of care, treatment outcomes and elements of effective treatment. Students apply the theory, skills, knowledge and attitudes associated with the competencies in the practice dimensions and the 12 core functions of substance use disorder counseling. Highly recommend 801-195 Written Communication prior to this course. (Prerequisites: 550-112 Client Rights, Confidentiality and Ethics; 550-125 Counseling Skills and Practice)

## **550-125 Counseling Skills and Practice - 3 Crs.**

Provides an introduction to basic counseling skills and allows students to practice basic counseling skills such as attending, accurate empathy, advanced accurate empathy,

summarizing, probing, helping, self-disclosure, immediacy, confrontation, information sharing, goal setting and implementing individualized plans.

**550-131 Crisis Management - 2 Crs.** Develops the students' skills of identifying stressors in crisis situations and in developing and applying intervention techniques. Hands-on activities are designed to develop skills for intervening with crisis situations and determining referral to community resources. (Prerequisites: 550-112 Client Rights, Confidentiality and Ethics; 550-125 Counseling Skills and Practice)

**550-135 Diversity in Counseling - 3 Crs.** (title use to be Special Issues in Treatment) Exposes student to unique and genuine characteristics of America's special populations. Provides strategies for working with clients from these populations. Examines the uniqueness of each population and the resources and services available. Designed so students improve their effectiveness as AODA counselors in attitudes, information and self-understanding of special populations. (Prerequisite: 801-195 Written Communication)

## **550-140 Counseling Theory and Practice - 3 Crs.**

Integrates the theory and techniques of various psychotherapies with basic counseling skills, professional and ethical standards, and personal counseling style. Case studies, classroom discussions and simulated counseling experiences provide opportunities for students to apply counseling theory to simulated counseling experiences. Highly recommend 801-195 Written Communication prior to this course. (Prerequisites: 550-112 Client Rights, Confidentiality and Ethics; 550-125 Counseling Skills and Practice)

**550-141 Group Facilitation - 3 Crs.** Provides participants with the skills and knowledge base for effective facilitation of groups. Actual opportunities to facilitate groups are also provided. Participants critique the group's progress and assess their effectiveness as leaders. Recommendations for skill refinement are given. (Prerequisites: 550-112 Client Rights, Confidentiality and Ethics; 550-125 Counseling Skills and Practice)

## **550-142 Introduction to Community Mental Health - 3 Crs.**

Introduces the major diagnostic categories of mental illness, with a focus on the psychiatric management of these mental illnesses. Examines the unique treatment needs of people who have a coexisting psychiatric disorder with a substance use disorder. Highly recommend 801-195 Written Communication and 809-198 Introduction to Psychology prior to this course. (Prerequisite: 550-106 Physiological Complications and Psychopharmacology)

**550-150 Family Systems - 3 Crs.** Provides the skills needed to assess the nature of the family and how it functions as a system. Explores how systems are affected by internal and external influences such as abuse and family violence. Prevention, assessment and intervention techniques are applied in the course. (Prerequisite: 801-195 Written Communication)

## **550-156 Alcohol and Other Drug Abuse Internship 1 - 5 Crs.**

Demonstrates AODA counseling skills in a clinical setting. Integrates skills learned in theoretical and practical coursework to provide students with skills to work with clients in hospitals, outpatient clinical agencies and AODA group homes. (Prerequisites: 550-121 Introduction to Substance Abuse Treatment; 550-131 Crisis Management; 550-135 Diversity in Counseling; 550-140 Counseling Theory and Practice; 550-141 Group Facilitation; 550-142 Introduction to Community Mental Health; 550-150 Family Systems; 550-160 On-Campus Talk About Alcohol; criminal background check)

**550-157 Alcohol and Other Drug Abuse Internship 2 - 5 Crs.** Focuses on demonstrating competency in the 12 core functions and the 8 practice dimensions of substance use disorder counseling. Integrates knowledge and skills learned in theoretical and practical coursework to provide students with knowledge, skills and attitudes to provide treatment services to AODA clients in inpatient and/or outpatient clinical agencies, residential treatment facilities, AODA group homes and other clinical settings that treat substance use disorders. (Prerequisites: Completion of or concurrent enrollment in 550-156 Alcohol and Other Drug Abuse Internship 1. Must be taken in the final semester; criminal background check)

**550-159 Resiliency Training - 2 Crs.** Introduces the theory of resiliency as a developmental vocabulary of strengths. Focuses on strategies for students to utilize to avoid pitfalls of a risk/deficit perspective. Also examines inroads for students to find their inner strengths. Builds skills in how to handle life situations with resiliency. (Prerequisite: 801-195 Written Communication)

**550-160 On-Campus Talk About Alcohol - 1 Cr.** Reduces the risk of experiencing alcohol-related health and impairment problems at any point in life. To achieve this, the course has four behavior goals: (1) increase the incidence of abstinence, (2) delay the onset of the first use of alcohol, (3) reduce high-risk drinking among those who use alcohol, and (4) motivate those who may have alcohol/drug problems to seek assistance. Highly recommend 801-195 Written Communication prior to this course.

**601-107 Electricity and Electronics HVAC - 3 Crs.** Emphasizes fundamentals of electricity and electronics with application to heating, ventilating, air conditioning and refrigeration equipment. Provides hands-on instruction in electrical-mechanical applications. Thevenin theorem and Ohm's and Watt's laws are studied, along with magnetic principles, inductance and capacitance in circuits. Identification and construction of series, parallel and combination circuits are explored through lab experiments.

**601-108 Heating, Ventilation and Air Conditioning (HVAC) Schematics - 2 Crs.** Develops skills in reading wiring diagrams, ladder diagrams, block diagrams, electrical and HVAC/R symbols. Focuses on interpreting electrical/electronics and HVAC/R components in a typical circuit. (Prerequisite: 601-107 Electricity and Electronics HVAC or dean consent)

**601-109 HVAC/R Code - 1 Cr.** Focuses on preparing the student to sit for certification tests required by federal and state governments and the Heating, Ventilation, Air Conditioning and Refrigeration (HVAC/R) industry. Students focus on EPA refrigerant-handling exams and Industry Competency Exams (ICE). Other certification exams are also examined. The student defines goals for this class based on exam needs. (Prerequisite: 601-120 Fundamentals of Refrigeration or dean consent)

**601-116 Hydronic Environmental Systems - 3 Crs.** Focuses on the installation and troubleshooting of hydronic systems, water treatment, maintenance, control devices and service tools. Hydronic balancing techniques are emphasized using pump laws, distribution balance methods procedures and use of instrumentation. (Prerequisite: 601-123 Residential Heating Systems or dean consent)

**601-118 Air Distribution - 2 Crs.** Focuses on commercial ventilation systems and air balance techniques. Develops skills relative to the importance

of balancing, air quality, air measurement, fan laws, balance method and use of instrumentation.

**601-120 Fundamentals of Refrigeration - 2 Crs.** Focuses on the fundamental principles of refrigeration, refrigerants, the refrigeration system and control devices. Develops skills and knowledge in the diagnosis and repair of air conditioning and refrigeration systems.

**601-121 Refrigeration Service Techniques - 2 Crs.** Develops basic skills in the use of refrigeration test instruments, tools and the application of refrigeration theory and practices to refrigeration systems. Skills applied are brazing techniques, evacuation, dehydration and charging of refrigeration systems. The effect of various metering devices is analyzed. Covers wiring of a refrigeration trainer and ways to recover refrigerant from a system using recovery machines as outlined in EPA Section 608 of the Clean Air Act. (Prerequisite: Concurrent enrollment in 601-120 Fundamentals of Refrigeration or dean consent)

**601-122 Residential Air Conditioning - 3 Crs.** Develops skills and knowledge in the diagnosis, repair and installation of air conditioning systems. Focuses on service and installation techniques for residential systems. Simulation software and actual equipment provide troubleshooting experience. (Prerequisites: 601-121 Refrigeration Service Techniques. Concurrent enrollment in 601-108 Heating, Ventilation and Air Conditioning (HVAC) Schematics; 601-127 Fundamentals of Building Controls)

**601-123 Residential Heating Systems - 3 Crs.** Develops advanced skills and knowledge of installation, maintenance and servicing of residential heating systems. Covers control devices, service tools, human comfort and add-on purchases. Simulation software and actual equipment provides troubleshooting experience. (Prerequisites: 601-122 Residential Air Conditioning. Concurrent enrollment in 601-128 Building Control Systems Applications or dean consent)

**601-127 Fundamentals of Building Controls - 2 Crs.** Enhances skills in schematic wiring diagram interpretation and provides instruction in the fundamental concepts of building control systems. Hands-on simulations and actual systems are used to extensively enhance the concept of control systems. (Prerequisite: Concurrent enrollment in 601-108 Heating, Ventilation and Air Conditioning (HVAC) Schematics)

**601-128 Building Control Systems Applications - 3 Crs.** Enhances skills in schematic wiring diagram interpretation. Provides hands-on instruction in electro-mechanical building control, pneumatic control and electronic control of building systems. Hands-on simulators and actual systems are used to extensively enhance concepts of control systems. (Prerequisites: 601-108 Heating, Ventilation and Air Conditioning (HVAC) Schematics; 601-127 Fundamentals of Building Controls. Concurrent enrollment in 601-123 Residential Heating Systems or dean consent)

**601-129 Commercial Food Service Refrigeration - 3 Crs.** Focuses on advanced principles of refrigeration, refrigerants, the refrigeration system, control devices and service tools as they apply to food service equipment. Reviews basic refrigeration, the accessory devices that make up commercial refrigeration systems, design concepts, defrost system, system configurations and operating principles. (Prerequisite: 601-121 Refrigeration Service Techniques or dean consent)

**601-130 Supermarket Refrigeration - 3 Crs.** Focuses on advanced principles of refrigeration, refrigerants, the refrigeration system, control devices and service tools. Develops skills in installation, start-up, preventative maintenance and the diagnosis of commercial refrigeration systems. Provides a practical problem-solving approach to everyday situations that confront the refrigeration technician. (Prerequisite: 601-129 Commercial Food Service Refrigeration or dean consent)

**601-132 Indoor Air Quality - 2 Crs.** Examines comfort and safety issues, energy recovery and preventative maintenance of all heating, ventilating and air conditioning using the latest equipment available.

**601-134 Commercial Heating and Air Conditioning - 4 Crs.** Develops advanced skills in the preventative maintenance and repair of commercial heating and air conditioning systems. Focuses on systems, start-up, preventative maintenance, service, troubleshooting and installation. Applications center on light commercial, packaged, split and central systems. (Prerequisites: 601-123 Residential Heating Systems; 601-128 Building Control Systems Applications. Concurrent enrollment in 601-116 Hydronic Environmental Systems or dean consent)

**606-103 Design Specifications - 3 Crs.** Emphasizes further development of dimensioning techniques and applying tolerances for functionality and manufacturability. Students create solid models and produce detail and assembly drawings suitable for manufacturing production with the aid of CAD (Computer-Aided Drafting) software. Students continue to develop their CAD skills utilizing NX (Unigraphics) software. (Prerequisites: 606-101 Design Drafting 1 or 617-134 Principles of Design. Completion of or concurrent enrollment in 606-170 CAD 3-D, NX (Unigraphics))

**606-107 Component Design - 4 Crs.** Students apply and develop their knowledge and skills in creating engineering drawings and learn the skills to design mechanical products and parts utilized in various machines. Students use CAD software and work on individual projects to develop their understanding and skills in drawing preparation, decision making, information retrieval, organization and creativity. (Prerequisites: 606-103 Design Specifications; 606-132 Materials of Industry)

**606-111 Integrated Manufacturing Production - Mechanical Design - 2 Crs.** Students will simulate a manufacturing environment by building a workcell, producing a product in production and performing quality assurance checks. Emphasizes implementation of a project plan, teamwork, problem solving and decision making. It is suggested that the student take this course in the semester after they take 606-112 Integrated Manufacturing Planning - Mechanical Design. (Prerequisite: 606-110 Integrated Manufacturing Center Planning - Mechanical Design or 606-112 Integrated Manufacturing Planning - Mechanical Design)

**606-112 Integrated Manufacturing Planning - Mechanical Design - 2 Crs.** Students complete a project from concept to the point where a product is designed and its manufacturing process is planned. Emphasizes the project management process, teamwork, problem solving and decision making. It is suggested that the student take 606-111 Integrated Manufacturing Production - Mechanical Design in the semester after this course. (Prerequisite: Completion of or concurrent enrollment in 606-105 Design Drafting 3 or 606-107 Component Design)

# COURSE DESCRIPTIONS (CONT.)

**606-116 Machine Elements - 3 Crs.** Presents a comprehensive study of the fundamental principles and analytical methods required for the correct design of the separate components that comprise a machine or product. Emphasizes understanding how the mechanical systems operate, construction details, practical design considerations and current design practices in the field of mechanical design. (Prerequisites: 606-101 Design Drafting 1 or 617-134 Principles of Design; 804-116 College Technical Mathematics 2)

**606-125 Product Design - 4 Crs.** Trains the student to use a systematic process along with technical procedures to plan, coordinate and implement the mechanical design of a machine or product. Students learn to apply fundamental design concepts and develop creativity in determining the functional features and engineering details of a product on a team-oriented project. (Prerequisites: 606-105 Design Drafting 3 or 606-107 Component Design; 606-116 Machine Elements. Completion of or concurrent enrollment in 606-130 Strength of Materials)

**606-128 Design Statics - 3 Crs.** Presents an elementary, analytical and practical approach to the principles and physical concepts of the study of forces and their effects on machines. Emphasizes mastery of basic problem-solving methods used in force analysis for the purpose of machine design. (Prerequisite: 804-116 College Technical Mathematics 2)

**606-130 Strength of Materials - 3 Crs.** Develops the relationships between the external forces applied to a part and the internal stresses and strains generated by these forces. In application, it provides a first step in the design analysis to ensure that a component is safe with respect to strength, rigidity and stability. (Prerequisite: 606-128 Design Statics)

**606-132 Materials of Industry - 3 Crs.** Examines the varying usages of common and unique materials used in the design and engineering fields. Emphasis is placed upon the selection of appropriate materials for specific applications, both from a technical aspect and a cost perspective. Significant exposure is devoted to areas of nonmetallic materials and their increasing uses in product design. (Prerequisite: Completion of or concurrent enrollment in 606-101 Design Drafting 1 or 617-134 Principles of Design)

**606-150 Electronics and Instrumentation - 3 Crs.** Introduces basic electronic theory, components, and circuits and how to use electronic instruments for testing engine electrical components and systems. Students develop working knowledge of basic electronic circuits used in electronic ignition systems, as well as the ability to use electronic test instruments.

**606-155 Ignition Fuels and Combustion - 4 Crs.** Introduces engine operating cycles and processes and examines variables that affect the cycles. These factors are ignition, exhaust, valve timing, combustion, detonation and air-to-fuel ratio. Students also examine ignition, induction and fuel systems. (Prerequisites: 606-150 Electronics and Instrumentation; 606-167 Engine Development and Design)

**606-164 Engine Fundamentals - 3 Crs.** Provides an understanding of the operating principles of gasoline engines. Introduces the proper and safe use of lab tools and equipment. Studies the operation of engine systems and components. Students disassemble, measure, recondition and reassemble a two- and four-stroke cycle engine.

**606-165 Small Engine Service - 4 Crs.** Introduces students to the diagnosis and repair of small engines used on recreational and power equipment. Provides laboratory time to set up and repair engine-driven equipment found in the small engine service industry. (Prerequisite: 606-164 Engine Fundamentals)

**606-167 Engine Development and Design - 2 Crs.** Studies the history and development of internal and external combustion engines. Reviews the advantages and disadvantages of various engine designs. Explores the design and operation of various mechanical components and the systems for fuel, electrical, cooling and lubrication. (Prerequisite: Completion of or concurrent enrollment in 606-164 Engine Fundamentals)

**606-168 Engine Testing and Testing Equipment - 5 Crs.** Introduces internal combustion design and development procedures in a laboratory situation. Provides students with a background in testing procedure, testing codes, test reporting and instruments used in engine testing. (Prerequisite: 606-155 Ignition Fuels and Combustion)

**606-169 Engine Emission Testing and Controls - 3 Crs.** Develops a working knowledge of the interrelationship of the internal combustion engine and its effects on the environment. Students identify and operate the instrumentation to measure engine emissions and compare values to government-mandated levels. Students also explore emission controls. (Prerequisite: 606-168 Engine Testing and Testing Equipment)

**606-170 CAD 3-D, NX (Unigraphics) - 3 Crs.** Introduces basic (Unigraphics Solutions) NX parametric-based solid modeling techniques. Exercises include creating and editing solid models using primitive features, form features and sketches. Introduces master modeling technique of drawing creation and editing; file management is also introduced. Recommended: Previous drafting experience or course; previous work on computers (Microsoft products such as Word, Excel, etc.).

**606-171 Advanced CAD, NX (Unigraphics) - 3 Crs.** Explores areas of three-dimensional constructions and related features of the EDS Unigraphics II CAD system. Participants will construct 3-D models and perform model editing, use a 3-D coordinate system, create and apply surface techniques, and create 2-D drawings based on 3-D models. (Prerequisite: 606-170 CAD 3-D, NX (Unigraphics))

**606-172 Unigraphics - 4 Crs.** Introduces basic (Unigraphics Solutions) NX parametric-based solid modeling techniques. Exercises include creating and editing solid models using primitive features, form features and sketches. Introduces master modeling technique of drawing creation and editing and file management. Students should have previous drafting experience or course and previous experience on computers (Microsoft products such as Word and Excel).

**606-173 Engine Problems - 3 Crs.** Students develop laboratory problem-solving experience. The engine and its accessories and/or components are studied and tested for their effects on the engine's operation. A complete report is written on the information gathered from the laboratory experience. Sound and vibration, failure analysis, and application of transducers and strain gages are also explored. (Prerequisite: 606-168 Engine Testing and Testing Equipment)

**606-174 Transmission of Power - 3 Crs.** Introduces student to applications of power transfer commonly used by power equipment and engine manufacturers. Students

examine design considerations and repair procedures of commonly used power transmission systems, such as gearcases, manual and automatic transmissions, belts, chains, clutches and hydrostatic drives. Additional focus is placed on marine power transfer systems.

**606-176 CAD 2-D, AutoCAD - 3 Crs.** Introduces computer-aided drafting (CAD) using the latest AutoCAD 2-D software. Students develop skills in drawing setup and organization, drawing and editing objects, creating complex shapes, dimensioning, using text, display and layer control, using symbols, drawing techniques, and plotting. No previous computer experience is required, but a background in fundamental blueprint reading and/or drafting skills is recommended.

**606-180 Geometric Dimensioning and Tolerancing - 3 Crs.** Provides design, manufacturing and quality assurance personnel with the fundamentals and concepts used on engineering drawings to describe form, location and orientation of features for precision parts. Geometric Dimensioning and Tolerancing (GD&T) is an international language that consists of symbols, rules, definitions and conventions adopted by the American Society of Mechanical Engineers (ASME) for engineering drawings. (Prerequisite: 606-103 Design Specifications)

**606-182 Engine Research and Development Technician Internship - 1-3 Crs.** Apply course studies to practical experience and training in the workplace. Students document their learning experiences in a report. A log of duties performed is also required.

**607-110 Civil Drafting Fundamentals - 4 Crs.** Students develop computer drafting skills and technical knowledge for producing plans. Studies include map types, uses and interpretation; plotting traverses, land profiles, earthwork cut and fill; constructing contours from field data; calculating areas, volumes and ground slopes; creating legal descriptions of land; developing drainage and construction plans for utilities. Basic blueprint reading and/or high school drafting are helpful but not required. (Prerequisites: Completion of or concurrent enrollment in 607-176 AutoCAD I; 804-114 College Technical Mathematics 1B)

**607-112 Architectural Drafting - 5 Crs.** Emphasizes sketching and computer-aided drafting. Students develop an architectural set of construction drawings including electrical plans, floor plans, foundations, sections, elevations, details, and schedules for a commercial structure. Use of resources such as building codes, Sweets Material Catalogs, manufacturer's literature and architectural prints are utilized. High school drafting advisable. (Prerequisite: Completion of or concurrent enrollment in 607-176 AutoCAD I)

**607-114 Structural Drafting - 4 Crs.** Students analyze poured-in-place concrete, steel and precast concrete as building materials. Computer drafting of plans for commercial and industrial buildings with details for construction, fabrication and Bill of Materials are prepared. Students define terms and methods common to each of the three major types of building materials. Provides the necessary knowledge and develops the basic structural drafting skills necessary for entry-level positions in the construction industry. (Prerequisite: 607-112 Architectural Drafting)

**607-122 Mechanical Construction - 3 Crs.** Addresses the fundamental concepts of the mechanical systems for building and applies basic design principles in the following areas: heating, air conditioning, ventilation, plumbing, electrical and lighting. (Prerequisite: 804-114 College Technical Mathematics 1B)

**607-123 Construction Estimating - 3 Crs.** Introduces the basic methods of estimating and systems commonly used to complete quantity surveys. Emphasizes developing the skills required to prepare the types of estimates used in the design and construction of buildings and site improvements. Basic principles of construction time requirements and project scheduling, plus bid and contract documents, are discussed and practiced. (Prerequisite: 607-114 Structural Drafting or consent of dean)

**607-131 Structural Analysis I - 3 Crs.** Provides an understanding of the relationship between the external forces applied to a structure and the resulting action on the components of the structure. Topics of study include vector analysis, resultant of forces, moments, force couples, truss analysis, and deflection in beams. (Prerequisite: 804-114 College Technical Mathematics 1B)

**607-132 Structural Analysis 2 - 3 Crs.** Provides an understanding of the relationship between the external forces applied to a structure and the resulting action on the components of the structure. Topics of study include moment of inertia, stress in a structural member due to force or thermal changes, bending stress, and deflection in beams. (Prerequisites: 607-131 Structural Analysis 1; 804-116 College Technical Mathematics 2)

**607-135 Construction Surveying - 3 Crs.** Students apply fundamental principles of surveying to the use of surveying instruments. Includes measurement, differential leveling, traversing, stadia, introduction to a total station, computations with computer software and introduction to GIS. To supplement classroom instruction, students solve field problems working as a surveying crew and using surveying equipment. (Prerequisite: Completion of or concurrent enrollment in 804-114 College Technical Mathematics 1B)

**607-137 Site Investigation - 3 Crs.** Students prepare a site plan for a typical residential and industrial lot including structure, location, paving, parking, drainage considerations, erosion control measures and landscaping. Includes the drafting of plans for a subdivision including survey maps, plot maps, drainage plans, utility drawings, road layout, and presentation drawings. (Prerequisite: 607-110 Civil Drafting Fundamentals)

**607-138 Soils - 2 Crs.** Explores the fundamental concepts of soil composition and structure, properties of fine-grained soil, compaction, soil classification, soil investigation, test and analysis, nuclear moisture-density relationship, bearing ratio, and percolation. Includes the testing of materials used in the various fields of construction. (Prerequisite: 804-114 College Technical Mathematics 1B)

**607-150 Technical Problems - 3 Crs.** Students prepare a commercial design project under a prescribed set of criteria utilizing knowledge of previous courses in design with various construction materials and methods, including concrete, steel, wood, etc. Emphasizes practical projects and solutions. (Prerequisites: 607-110 Civil Drafting Fundamentals; 607-114 Structural Drafting; 607-122 Mechanical Construction; 607-131 Structural Analysis 1; 607-138 Soils)

**607-170 AutoCAD, Basic - 3 Crs.** Introduces student to computer-aided drafting (CAD) using AutoCAD software. Explores basic constructions, dimensioning, editing and drawing manipulation functions. Additional topics, including zoom, array, inquiry, regen, etc., will allow students to complete drawings. No CAD experience is required, but a familiarity with drafting, blueprint, PC operation and windows would be helpful.

**607-176 AutoCAD I - 3 Crs.** Introduces students to computer-aided drafting (CAD) using AutoCAD software. Explores basic constructions, dimensioning, editing and drawing manipulation functions. Additional topics, including zoom, array, inquiry, regen, etc., will allow students to complete drawings appropriate to their individual curriculums. No previous computer experience is required, but it would be helpful if students have computer knowledge regarding files, folders, and various types of software. Drafting experience or completion of a mechanical drafting/technical print reading course would also be helpful.

**607-177 AutoCAD II - 3 Crs.** Expands on the AutoCAD Architecture program and introduces 3-D modeling and visualization. Covers solid modeling concepts. Presentation drawings will be created to convey a look of the plans and perspective views. Explores customization of the AutoCAD interface by creating a custom profile. Exercises include creating a 3-D building with the features of AutoCAD Architecture (walls, doors, windows, structural members, roofs and styles). (Prerequisite: 607-176 AutoCAD I or 607-170 Basic AutoCAD)

**607-178 Revit - 2 Crs.** Introduces students to the commercial use of Revit Architecture, an AutoDesk product. Students develop an understanding of Building Information Models by creating a 3-D set of documents which will include floor plans, elevations, sections, schedules and sheet sets. Students develop an understanding of the creation of content libraries, reflected ceiling plans, floor and roof systems, and rendering. Students will be exposed to the detailing features of Revit. Knowledge of computer-aided drafting, construction methods and basic computer skills will be beneficial.

**607-371 Basic AutoCAD for Plumbers - 1 Cr.** Introduces students to computer-aided drafting (CAD) using AutoCAD software as related to the plumbing field. Explores basic constructions, dimensioning, editing and drawing manipulation functions. Also includes zoom, array, inquiry, regen, etc.; will allow students to complete drawings. No CAD experience required, but familiarity with drafting, blueprints, PC/Windows would be helpful.

**612-103 Industrial Hydraulics and Pneumatics 1 - 2 Crs.** Emphasizes forms of power transmission used in industry. Force and time capabilities for fluid power systems are determined. Develops skills needed to determine directional control valves to use with hydraulic pumps and to select directional control valve components for use in pneumatic systems. Students diagram and build air relay logic circuits.

**617-108 Orthographic Projection Concepts - 3 Crs.** Students apply principles of the projection and creation of orthographic and auxiliary views. Includes the application of line types, dimensioning, tolerancing, fasteners, descriptive geometry, revisions, and section views to specific design situations. Students utilize CADD to reinforce and demonstrate mastery of orthographic projection techniques. This course should be taken after or with 617-114 CAD 3-D, SolidWorks.

**617-110 Computer-Aided Design and Drafting, AutoCAD - 3 Crs.** Introduces the student to computer-aided drafting (CAD) using current AutoCAD software. Explores basic constructions, dimensioning, editing and drawing manipulation functions. Additional topics include placing text, inquiry commands, setting system variables multilines, layout/paper space and plotting. No previous computer experience required, but a background in fundamental blueprint reading and/or drafting skills is recommended.

**617-112 CAD 3-D, Pro-Engineer - 3 Crs.** Introduces parametric-based solid modeling using Pro-Engineer solids modeling software. Emphasis is placed on solids modeling concepts, including development, modifying and editing models. Additional concepts include documenting of modules using drawing mode and combining models into assemblies using assembly mode. Concepts will be applied to exercises related to part design and tooling and fixture development. Recommended: Previous drafting experience or course; previous work on computers (Microsoft products such as Word, Excel, etc.).

**617-113 CADD, Solids - 3 Crs.** Introduces AutoCAD Boolean-based and SolidWorks parametric-based solid modeling techniques. AutoCAD solids will include converting 2-D drawings to 3-D solids and 3-D solids to 2-D drawings. SolidWorks exercises will include creating and editing solid parts, assemblies and drawings. Exploded views, Bill of Materials, and configurations will be applied to product, die and mold tooling exercises. (Prerequisite: 617-110 Computer-Aided Design and Drafting, AutoCAD)

**617-114 CAD 3-D, SolidWorks - 3 Crs.** Introduces SolidWorks parametric-based solid modeling techniques. Exercises will include creating and editing solid parts, assemblies and drawings. Top-down and bottom-up designing techniques will be applied to product design, sheet metal and mold tooling exercises. Exploded views, Bill of Materials, animations, finite element analysis and configurations will be created. File conversions will be explored to and from Pro-Engineer, NX/Unigraphics and AutoCAD software. Recommended: Previous drafting experience or course; previous work on computers (Microsoft products such as Word, Excel, etc.).

**617-115 Jig and Fixture Design - 3 Crs.** Applies progressive theory and application skills to jig and fixture design. Introduces the development necessary to process information and design the tools, methods and techniques necessary to improve manufacturing efficiency and productivity. Explores technological advancements such as power workholding and modular tooling systems. Incorporates computer-aided design into the design process. Integrates student subjectivity into design conceptualization. (Prerequisites: 617-134 Principles of Design. Completion of or concurrent enrollment in 617-114 CAD 3-D, SolidWorks)

**617-116 AutoCAD, Beginning Level - 2 Crs.** Introduces computer-aided drafting (CAD) fundamental drafting techniques. Develops skills in basic construction, dimensioning, editing and drawing manipulation functions. File management, symbol libraries, screen layout and plotting are explored.

**617-120 Die Making Processes - 3 Crs.** Incorporates fundamental stamping die principles into die design applications. Emphasizes piercing, blanking, bending and forming operations. Focuses on die components, types of dies and basic die construction. Students utilize computer software and a variety of machine tools to apply metalworking concepts. Hands-on application for assembly and disassembly of metal stamping dies. (Prerequisites: 606-176 CAD 2-D, AutoCAD; 617-134 Principles of Design; 623-162 Manufacturing Processes)

**617-123 Advanced SolidWorks Assembly Modeling - 3 Crs.** Applies previously developed SolidWorks skills to model assemblies and drawings using bottom-up, in context, and top-down modeling techniques. Configurations, custom properties and design tables will be used to solve specific design scenarios. (Prerequisite: 617-113 CADD, Solids or 617-114 CAD 3-D, SolidWorks)



# COURSE DESCRIPTIONS (CONT.)

**617-125 Blanking and Compound Die Design - 3 Crs.** Utilizes die design software to transform part drawings into completed metal stamping die designs. Students calculate blanking and stripping forces, select a punch press and incorporate standard die components and materials to meet the design requirements. Students apply die clearance to the die cutting components to satisfy part size dimensions. (Prerequisites: 617-114 CAD 3-D, SolidWorks; 617-120 Die Making Processes)

**617-126 Progressive Bending and Draw Die Design - 3 Crs.** Applies progressive strip layout methods to the manufacture of complex metal stamping die designs. Students calculate flat blank lengths of the part drawing to determine the unfolded size. Students apply bending and draw components into the designs to shape the sheet metal parts into the part drawing requirements. (Prerequisite: 617-125 Blanking and Compound Die Design)

**617-130 Mold Making Processes - 3 Crs.** Incorporates the fundamentals of mold construction as they apply to plastics, diecasting and rubber moldings using theoretical and hands-on approaches. Answers the why questions associated with molding processes, designing and construction of mold dies. (Prerequisites: 617-114 CAD 3-D, SolidWorks; 617-134 Principles of Design; 623-162 Manufacturing Processes)

**617-134 Principles of Design - 3 Crs.** Students develop the ability to read, visualize, interpret and create detailed engineering drawings. The course includes the application of line types, dimensioning, tolerancing, fasteners, revisions, section views, and auxiliary views to specific design situations. Students utilize CAD to reinforce and demonstrate mastery of orthographic projection techniques. (Prerequisite: Completion of or concurrent enrollment in 606-170 CAD 3-D, NX (Unigraphics) or 606-176 CAD 2-D, AutoCAD or 617-112 CAD 3-D, Pro-Engineer or 617-114 CAD 3-D, SolidWorks)

**617-135 Two- and Three-Plate Mold Design - 3 Crs.** Applies strategies and techniques to develop plastic and die cast mold design concepts, fully detailed mold components and stock lists to prepare two- and three-plate mold designs for manufacture. Students apply shrinkage and draft, select mold materials, cooling methods, gating style, ejection techniques, parting line locations, standard and custom mold components to meet customer requirements. (Prerequisite: 617-130 Mold Making Processes)

**617-136 Side Action and Hot-Runner Mold Design - 3 Crs.** Applies side-pull actions to the manufacture of molded undercuts and hot-runner systems for runnerless high-volume molds. Students apply mold design skills mastered in the prerequisite Two- and Three-Plate Mold Design course in combination with new techniques introduced in this course to design molds to meet customer requirements. (Prerequisite: 617-135 Two- and Three-Plate Mold Design)

**617-138 Integrated Manufacturing Planning - Tool Design Engineering - 2 Crs.** Students complete a project from concept to the point where a product is designed and its manufacturing process is planned. Emphasizes the project management process, teamwork, problem solving and decision making. It is suggested that the student take 617-139 Integrated Manufacturing Production - Tool Design Engineering in the semester after this course. (Prerequisite: 617-115 Jig and Fixture Design)

**617-139 Integrated Manufacturing Production - Tool Design Engineering - 2 Crs.** Students will simulate a

manufacturing environment by building a workcell, producing a product in production and performing quality assurance checks. Emphasizes implementation of a project plan, teamwork, problem solving and decision making. It is suggested that the student take this course in the semester after they take 617-138 Integrated Manufacturing Planning - Tool Design Engineering. (Prerequisite: 617-138 Integrated Manufacturing Planning - Tool Design Engineering)

**617-141 Computer-Aided Manufacturing - 2 Crs.** Introduces students to two-dimensional (2-D) Computer-Aided Machining (CAM) utilizing Mastercam software. Students run CAM software on a computer to generate 2-D CNC programs. Students develop skills in the generation of 2-D geometry; generation of 2-D toolpaths; CNC machine code generation; post processing to machine language; tool selection; programming, editing and manipulation; speed and feed calculation; and optimization of programs for maximum efficiency. The course is delivered in a synchronous online delivery format where the student is at work, home or school observing live, instructor-led demonstrations. Students will complete exercises on their own and will either submit the completed exercise for evaluation or demonstrate live to the instructor through an Internet connection.

**617-142 Computer-Aided Manufacturing - Part A - 1 Cr.** Create two-dimensional and three-dimensional geometry using CAM software. Generate 2-D toolpaths for CNC milling machines and lathes, and 3-D tool paths for milling machines. (Corequisite: 617-143 Computer-Aided Manufacturing - Part B)

**617-143 Computer-Aided Manufacturing - Part B - 1 Cr.** Focuses on verification of part programs by linking computer-created 2-D and 3-D geometry and 2-D and 3-D toolpaths to machining practices on milling machines and lathes. (Corequisite: This course must be taken at the same time as 617-142 Computer-Aided Manufacturing - Part A)

**617-145 Basic Machining Techniques - 3 Crs.** Examines the basic machining practices used by tool and die makers in the production of molds and dies. Some advanced machining techniques are covered. Hands-on activities include working with hand tools, vertical milling machines, lathes, surface grinders, electrical discharge machines and computer numerical controlled (CNC) equipment.

**617-150 Material Selection - 2 Crs.** Provides skills in determining the physical, mechanical and chemical properties of materials needed for specific applications in the tool and die industry. Explains the process for manufacturing of tool steels and their alloys. Covers the heat treat processing of steel while examining the basic principles of metallurgy.

**617-160 Geometric Dimensioning and Tolerancing - 3 Crs.** Exposes students to ANSI/ASME Y14.5M-1994 national standard, which is the basis for dimensioning and tolerancing practices. Provides a tool for student to relate the design requirements to functional requirements; maximizes manufacturing tolerances; and assists design, production and inspection groups through uniform understanding and interpretation.

**617-199 Engineering Technologies Internship - 3 Crs.** Provides students in the Tool Design Engineering Technology, Mechanical Design, and Process Engineering Technology programs, who have completed at least three semesters of study, the opportunity to apply the concepts, principles and skills in an actual workplace. Emphasis is placed on applying design skills to real job tasks, adapting

to company culture and modeling the core abilities. Students use on-site experiences to develop professional insight. (Prerequisite: 606-170 CAD 3-D, NX (Unigraphics) or 617-112 CAD 3-D, Pro-Engineer or 617-114 CAD 3-D, SolidWorks)

**620-101 DC Circuits - 3 Crs.** Introduces the theory of basic DC electrical circuits. Emphasis is placed on testing of basic electrical circuits and verification of the theory involved in electronic technology. Troubleshooting practices are emphasized. Hands-on laboratory exercises and instrumentation reinforce theoretical concepts. This course supports the DC state standard for electronics. (Prerequisite: Concurrent enrollment in 804-113 College Technical Mathematics 1A)

**620-102 AC Circuits - 3 Crs.** Presents the scientific foundation used throughout electronics technology. This course supports the AC state standard for electronics. Troubleshooting practices are emphasized, and computer technologies are used to enhance perception of the abstract. Hands-on laboratory exercises and instrumentation will reinforce theoretical concepts. (Prerequisites: 620-101 DC Circuits. Completion of or concurrent enrollment in 804-114 College Technical Mathematics 1B)

**620-103 Semiconductor Devices - 3 Crs.** Focuses on the testing and application of semiconductors used in electronic circuits such as power supplies and motor drives. Analyzes various types of diodes, transistors and optoelectronic devices. Hands-on evaluation and testing of electronic circuits and use of laboratory test equipment, such as oscilloscopes and digital multimeters, is emphasized in the lab. (Prerequisite: 620-102 AC Circuits)

**620-104 Digital Electronics - 2 Crs.** Presents Boolean algebra, combinational logic circuit analysis and design, flip-flop arithmetic circuits, counters, digital IC logic families, data-handling logic circuits, I/O techniques, and memory devices. (Prerequisites: 620-103 Semiconductor Devices; 804-116 College Technical Mathematics 2)

**620-110 Integrated Manufacturing, Planning - Mechatronics - 2 Crs.** Students complete a project from concept to the point where a product is designed and its manufacturing process is planned. Emphasizes the project management process, teamwork, problem solving and decision making. It is suggested that the student take 620-111 Integrated Manufacturing, Production - Mechatronics, in the semester after this course. (Prerequisite: 620-103 Semiconductor Devices. Completion of or concurrent enrollment in 620-104 Digital Electronics)

**620-111 Integrated Manufacturing, Production - Mechatronics - 2 Crs.** Students will simulate a manufacturing environment by building a workcell, developing a product through manufacture, and performing quality assurance checks. Emphasizes implementation of a project plan, teamwork, problem solving and decision making. (Prerequisite: 620-110 Integrated Manufacturing, Planning - Mechatronics)

**620-115 AC-DC Machinery - 4 Crs.** Tests the characteristics of AC and DC electric motors, generators, and alternators. Determines the effects of direction of rotation, field flux, speed, load characteristics, and voltage and polarity of AC and DC machines. Measures CEMF, torque, speed, field saturation and power factors loads. Analyzes the characteristics of different motor types. Applies conclusions to industry applications. (Prerequisite: 620-102 AC Circuits)

**620-133 Mechatronic Controls - 3 Crs.** Explores and implements electrical machine controls. Evaluates electrical ladder diagrams and associated control systems. Conducts installation, testing and troubleshooting of machine control systems. Presents automation of processes using industrial hardware and software. (Prerequisite: 620-115 AC-DC Machinery)

**620-135 Programmable Controllers - 3 Crs.** Learn to install programmable controllers, develop basic control programs and modify instructions to design programs. Troubleshoot machines controlled by programmable logic controllers. Wire input and output field devices. Document modifications to control panels. Monitor and troubleshoot machine processes. Develop HMI applications. (Prerequisite: Completion of or concurrent enrollment in 620-104 Digital Electronics)

**620-136 Advanced Programmable Controllers - 3 Crs.** Learn to plan, program, identify and troubleshoot PLC motor control systems through a systematic approach. Discuss more advanced programming terminology, languages, and concepts. Identify communication techniques and protocols. (Prerequisite: 620-135 Programmable Controllers)

**620-146 Control Logics - 4 Crs.** Introduces students to the application of useful control and work functions. Basic process control theory, control loop characteristics, and sensor feedback devices are explored. Actual industrial controls, instrumentation and transducers are used in lab applications. Students apply integration techniques using digital, analog, electrical, mechanical, and hydraulic systems through laboratory experimentation. (Prerequisites: Completion of or concurrent enrollment in 620-151 Servomechanisms; 620-136 Advanced Programmable Controllers)

**620-150 PC Interfacing and Communications - 3 Crs.** Focuses on industrial PC hardware and applications. Introduces PC bases I/O, communications and software. Explores supervisory control, data acquisition, networking, hardware installation and system troubleshooting. (Prerequisite: Completion of or concurrent enrollment in 620-104 Digital Electronics)

**620-151 Servomechanisms - 3 Crs.** Provides technical skills for students to perform qualitative and quantitative analysis of Industrial Servo Systems. The control of velocity and position is explored utilizing various machines. Machine control is implemented using open-loop and closed-loop control techniques with industrial equipment. Provides a foundation for students to enhance their skills in working with electromechanical control systems. (Prerequisites: 620-133 Mechatronic Controls; 806-137 Comprehensive Technical Physics)

**623-105 Metals for Technicians - 1 Cr.** Introduces the student to the use of basic measuring tools, to threaded fasteners and their characteristics, and to mechanical properties of various metals. Students will calculate cutting speeds and perform drilling and threading operations.

**623-106 Quality Tools - 3 Crs.** Provides students with training in the effective use of over fifty quality improvement tools, many of them little known to even seasoned quality practitioners. Includes a thorough study of Production Part Approval Process (PPAP). All topics are presented with a hands-on, relative-to-industry approach.

**623-110 Technical Print Reading - 2 Crs.** Develops the ability to read, visualize and interpret industrial blueprints. Discusses and applies fundamental and standard practices to the reading of numerous actual prints from manufacturing industries.

**623-118 Gage Calibration, Repeatability and Reproducibility - 3 Crs.** Provides students with training to effectively set up and perform duties in a gage calibration program. In addition, this course provides students with training to effectively conduct repeatability, reproducibility bias, stability and linearity studies. All topics are presented with a hands-on, relative-to-industry approach. (Prerequisites: 623-190 Basic Metrology; 628-136 Statistical Process Control)

**623-122 Print Reading Principles - 2 Crs.** Students develop the ability to read, visualize, interpret and create detailed engineering drawings. Includes the application of line types, dimensioning, tolerancing, fasteners, revisions, section views and auxiliary views to specific design situations. Students utilize CAD to reinforce and demonstrate mastery of orthographic projection techniques. (Prerequisite: 606-176 CAD 2-D, AutoCAD)

**623-151 Lean Manufacturing - 3 Crs.** Incorporates the techniques utilized in a lean environment. Through projects, students learn the concepts of 5S, identifying waste, team building, problem-solving tools, setup reduction, cellular manufacturing, error proofing, kaizen, kanban, and value stream mapping. Most projects and examples are manufacturing-related. (Prerequisite: 623-162 Manufacturing Processes or dean consent)

**623-152 ISO 14001/2004 - 3 Crs.** Provides a clear explanation of each requirement imposed by ISO 14001/2004 for those who are designing and implementing an environmental system for the first time as well as those faced with maintaining a mature environmental management system. Identifies the ways in which ISO 14001/2004 can be implemented within the constraints of business strategies, environmental imperatives, and regulatory requirements.

**623-157 Applied Statistics/6 Sigma Concepts - 3 Crs.** Provides the student with an opportunity to learn and apply statistical tools to improve quality in manufacturing, service, education and healthcare organizations. Students are taught with actual examples of how statistical process control, ANOVA, t-tests, regression and statistical sampling can be used to improve quality. Students should have a basic knowledge of Microsoft Excel. (Prerequisites: 628-136 Statistical Process Control; 804-114 College Technical Mathematics 1B)

**623-158 Certified Quality Technician Primer Course - 2 Crs.** Provides the student with an opportunity to review the ASQ Certified Quality Technician body of knowledge and prepare for the test. Students practice test-taking skills, review basic math and calculator operation skills and learn to apply statistical quality tools. (Prerequisite: 623-190 Basic Metrology or dean consent)

**623-162 Manufacturing Processes - 3 Crs.** Provides training to safely operate commonly used machine tools such as lathes, milling machines and surface grinders while making various hands-on projects. Students learn to use basic measuring equipment such as scales, micrometers, dial calipers and gage blocks. Students also learn basic machining procedures such as calculating speeds and feeds, determining tap drill sizes, and selecting tooling. Several nontraditional machining processes, sheet metal processes, joining processes and plastics processes are also explored.

**623-167 ISO 9000/2000 and Auditing - 3 Crs.** Focuses on the interpretation of ISO 9000/2000 standards and develops the ability to audit these standards. Students utilize Quality Assurance manuals in a project-based approach.

**623-170 Process Planning - 2 Crs.** Provides the technician with skills and knowledge in developing process planning procedures used in modern manufacturing. Discusses ECNs, SOPs and route sheets. Concepts of job costing and breakeven are introduced. Students produce a process plan while manufacturing a real part. (Prerequisite: 623-162 Manufacturing Processes)

**623-190 Basic Metrology - 3 Crs.** Introduces dimensional metrology with extensive hands-on exposure to various measurement techniques. Includes laboratory experiments with micrometers, vernier instruments, indicators, optical comparators, gage blocks, instruments for surface analysis and tool maker's microscope.

**623-196 Geometric Dimensioning and Tolerancing With CMM Verification - 3 Crs.** Exposes student to ANSI/ASME Y14.5M-1994 national standard, which is the basis for dimensioning and tolerancing practices. Provides training in CMM measuring equipment using PCDMIS software for programming and form measurement to verify GD&T. Students relate the design requirements to functional requirements and maximize manufacturing tolerances which assist inspection groups through uniform understanding and interpretation. Recommend completion of 617-134 Principles of Design and 804-113 College Technical Mathematics 1A prior to taking this course or have print reading background.

**628-110 Integrated Manufacturing Planning - Process Engineering Technology - 2 Crs.** Students complete a project from concept to the point where a product is designed and its manufacturing process is planned. Emphasizes the project management process, teamwork, problem solving and decision making. It is suggested that the student take 628-111 Integrated Manufacturing Production - Process Engineering Technology, in the semester after this course. (Prerequisite: 623-162 Manufacturing Processes)

**628-111 Integrated Manufacturing Production - Process Engineering Technology - 2 Crs.** Students will simulate a manufacturing environment by building a workcell, producing a product in production and performing quality assurance checks. Emphasizes implementation of a project plan, teamwork, problem solving and decision making. (Prerequisite: 628-110 Integrated Manufacturing Planning - Process Engineering Technology)

**628-122 Basic CNC Programming and Operation - 3 Crs.** Applies skills in the programming, setup and operation of a machining center using G-code. Explores feeds and speeds, tool selection and workholding devices. Includes units on Rapid and Linear Interpolation, Circular Interpolation, Drilling, Bolt Circles, Absolute and Incremental Positioning, Subroutines and Subprograms, Cutter Compensation, and Pocket Milling. (Prerequisites: 103-159 Computer Literacy - Microsoft Office. Completion of or concurrent enrollment in 623-162 Manufacturing Processes or dean consent)

# COURSE DESCRIPTIONS (CONT.)

## **628-132 Advanced CNC Programming and**

**Operation - 3 Crs.** Applies skills in the programming, setup and operation of a turning center using G-code. Explores feeds and speeds, tool selection and workholding devices. Applies skills in programming and setup of a rotary indexer on a Vertical Machining Center, as well as the programming and setup of a Horizontal Machining Center. Introduces macro programming on a Haas Machining Center. It is recommended students have taken 628-122 Basic CNC Programming and Operation or have industry experience in programming and setup of CNC machines using G-code programming or dean consent.

**628-133 Robotics and Automated Material Handling - 3 Crs.** Emphasizes the application and management of industrial robots and automated material-handling systems. Applies the concepts of classification of robots, design of end-of-arm tooling, maintenance and safety. Computerized systems for materials inventory and retrieval are addressed through individual and group projects. Recommended completion of 628-122 Basic CNC Programming and Operation or background in working with automated equipment.

**628-135 Principles of Machining - 2 Crs.** Provides skills necessary for the student to perform basic operations on CNC lathes and milling machines with conversational controls. Students also learn to use and calibrate precision measuring equipment. (Prerequisite: 623-162 Manufacturing Processes)

**628-136 Statistical Process Control - 3 Crs.** Develops an understanding of the fundamentals of statistics and its application to statistical process control (SPC). Develops data interpretations skill using traditional and short run statistical tools. Introduces plotting of control charts and its interpretation for variable and attribute type of data. Involves the student in process capability studies, quality management techniques and computer application in quality control. Recommended completion of 804-113 College Technical Mathematics 1A or proficiency in performing mathematical computations prior to taking this course.

**628-142 Computer-Aided Manufacturing - 3 Crs.** Emphasizes the use of CAD/CAM and graphic N/C systems to create piece-part geometry, develop cutter location files and plot tool paths. Students postprocess data to machine language and verify programs on a variety of CNC machines. (Prerequisites: 628-122 Basic CNC Programming and Operation; 606-176 CAD 2-D, AutoCAD or dean consent)

**801-195 Written Communication - 3 Crs.** Develops writing skills that include prewriting, drafting, revising and editing. A variety of writing assignments is designed to help the student analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.

**801-196 Oral and Interpersonal Communication - 3 Crs.** Focuses upon developing speaking, verbal and nonverbal communication and listening skills through individual presentations, group activities and other projects. Course assignments will include presentations, various individual and group projects as well as written work.

**801-197 Technical Reporting - 3 Crs.** Provides students with the concepts, principles and skills for preparing and presenting oral and written technical reports. Types of reports may include lab and field reports, proposals, technical letters and memos, technical research reports

and case studies. (Prerequisite: 801-195 Written Communication)

**801-198 Speech - 3 Crs.** Explores the 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 other essential elements of speaking successfully, including the listening process, form the basis of the course.

**801-310 Occupational Communication - 2 Crs.** Focuses on writing, reading, listening and speaking skills through occupational applications. Students produce written documents, synthesize information, give and follow instructions and apply listening skills. Job-seeking skills are also addressed in this course.

**801-322 Occupational Writing - 1 Cr.** Builds confidence in writing ability; planning, organizing and preparing drafts; revising writing; and polishing final written products. Develops skill in using writers' resources, such as handbooks and style manuals, to write clearly, concisely and correctly.

**804-107 College Mathematics - 3 Crs.** Designed to review and develop fundamental concepts of mathematics pertinent to the areas of: (1) arithmetic and algebra, (2) geometry and trigonometry, and (3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections, and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions; solving linear equations and inequalities in one variable; solving proportions and incorporating percent applications; manipulating formulas; solving and graphing systems of linear equations and inequalities in two variables; finding areas and volumes of geometric figures; applying similar and congruent triangles; converting measurements within and between U.S. and metric systems; applying Pythagorean Theorem; solving right and oblique triangles; calculating probabilities; organizing data and interpreting charts; calculating central and spread measures; summarizing and analyzing data.

**804-113 College Technical Mathematics 1A - 3 Crs.** Examines linear, quadratic and rational equations; graphs functions; rearranges formulas; solves systems of equations; solves percent and proportion problems. Applies skills and operations to technical problems. College Technical Mathematics 1A plus College Technical Mathematics 1B are equivalent to College Technical Mathematics 1.

**804-114 College Technical Mathematics 1B - 2 Crs.** Continuation of College Technical Mathematics 1A. Includes measurement systems; computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasizes the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is equivalent to College Technical Mathematics 1. (Prerequisite: Completion of or concurrent enrollment in 804-113 College Technical Mathematics 1A)

**804-116 College Technical Mathematics 2 - 4 Crs.** Includes vectors; trigonometric functions and their graphs; identities; exponential and logarithmic functions and equations; radical equations; equations with rational exponents; dimension of a circle; velocity; sine and cosine graphs; complex numbers in polar and rectangular form; trigonometric equations; conic

sections; and analysis of statistical data. Emphasizes the application of skills to technical problems. (Prerequisite: 804-114 College Technical Mathematics 1B)

**804-118 Intermediate Algebra With Applications - 4 Crs.** Offers algebra content with applications. Topics include properties of real numbers, order of operations, algebraic solution for linear equations and inequalities, operations with polynomial and rational expressions, operations with rational exponents and radicals, algebra of inverse, logarithmic and exponential functions. (Prerequisite: 804-106 Introduction to College Mathematics or 804-107 College Mathematics)

**804-123 Math With Business Applications (Lakeshore Technical College Course) - 3 Crs.** Covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process, and basic statistics with business/consumer applications. (Prerequisite: ACCUPLACER Math minimum score of 79 or Equivalent or 10804100 Math Proficiency)

**804-360 Occupational Mathematics 1 - 2 Crs.** Presents principles of arithmetic, calculator use, measuring systems, and introductory algebra and geometry with applications to various occupational areas. Applies general arithmetic and introductory algebra to order of operations, ratios and proportions, measurement in different measurement systems, and basic algebraic problems.

**804-361 Occupational Mathematics 2 - 2 Crs.** Develops skills in algebra, geometry and trigonometry. Students will use trigonometry and the Pythagorean Theorem as well as circle and arc relationships to determine print dimensions. Students will calculate tolerances, interference, clearance and cutting speeds using appropriate formulas. (Prerequisite: 804-360 Occupational Mathematics 1)

**804-362 Occupational Mathematics 3 - 2 Crs.** Develops skills in calculating missing values for complex machining applications using trigonometry, the Law of Sines and the Law of Cosines. Students will calculate angles of rotation and tilt for three-dimensional situations. This course is for Tool and Die Making and CNC program students. (Prerequisite: 804-361 Occupational Mathematics 2)

**804-363 Algebraic Applications for Electrical Trades - 2 Crs.** Develops skills to apply scientific and engineering notations and inverse proportions to electrical formulas. Students will calculate dimensions using basic trigonometry and the Pythagorean Theorem. Students will analyze sine waves and apply the results to AC circuits as well as solve systems of equations. This course is for Electricity and Electrical Power Distribution program students. Recommend completion of 804-360 Occupational Mathematics 1 for students in the Electricity program before enrolling in this course.

**804-582 Mathematics 1 - 1 Cr.** Applies principles of arithmetic and algebra to metalworking and drafting occupations. Must be a state-contracted apprentice to enroll in this course.

**804-583 Mathematics 2 - 1 Cr.** Applies algebraic terms, expressions, equations and formulas. Includes geometric principles, polygons and oblique triangles to solving problems related to metalworking and drafting trades. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 804-582 Mathematics 1)

**804-584 Mathematics 3 - 1 Cr.** Applies principles of algebra, geometry and trigonometry using right triangles and oblique triangles to solve shop-related drawings. Toolmakers, die makers and machine tool operators solve problems related to shop situations. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 804-583 Mathematics 2)

**804-585 Mathematics 4 - 1 Cr.** Applies trigonometric solutions to shop-related drawings and solutions of oblique triangles. Toolmakers, die makers and machine tool operators solve problems related to shop situations. Must be a state-contracted apprentice to enroll in this course. (Prerequisite: 804-584 Mathematics 3)

**806-105 Principles of Animal Biology - 4 Crs.** Introduces general biological principles, cell structure and function, genetics, comparative anatomy and physiology, evolution, and ecosystems. Includes dissection of various fresh and preserved materials. (Prerequisite: 806-134 General Chemistry or dean consent)

**806-122 Natural Sciences in Society - 3 Crs.** Focuses on the history, philosophy, common concepts and current issues of Natural Science that have impacted the United States and global society. Explores processes required to analyze Natural Science issues. Students correlate science issues to personal and professional experiences.

**806-134 General Chemistry - 4 Crs.** Covers the fundamentals of chemistry. Topics include the metric system, problem solving, periodic relationships, chemical reactions, chemical equilibrium, properties of water; acids, bases, and salts; and gas laws. Students should complete Math Placement or Intermediate Algebra before taking this course.

**806-137 Comprehensive Technical Physics - 4 Crs.** Covers the areas of mechanics, heat, electricity, magnetism and optics through lecture, demonstration and laboratory work. Emphasizes empirical relationships, incorporating mathematical prerequisites. (Prerequisite: 804-114 College Technical Mathematics 1B)

**806-166 Wellness, Health and Healing - 3 Crs.** Presents a modern approach to wellness and healing. Covers wellness assessment tools, nutrition, fitness and exercise, stress management, disease, and methods of healing along with the development of a personal wellness plan.

**806-177 General Anatomy and Physiology - 4 Crs.** Examines concepts of human anatomy and physiology relative to health sciences. Emphasizes interrelationships between structure and function at the gross and microscopic levels of organization using a body systems approach. Assists healthcare professionals in applying concepts of whole-body anatomy and physiology to informed decision making and professional communication with colleagues and patients. Provides the foundation and is prerequisite to 806-179 Advanced Anatomy and Physiology. Prep for Basic Biology (836-113) or high school biology with C or better **STRONGLY RECOMMENDED**. (Prerequisite: High school or college chemistry with a C or better)

**806-179 Advanced Anatomy and Physiology - 4 Crs.** Focuses on normal human anatomy and physiology using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Uses experimentation within a science lab and includes analysis of cellular metabolism and the individual components of body systems. Includes integration of genetics to human reproduction and development. (Prerequisite: 806-177 General Anatomy and Physiology)

**806-186 Introduction to Biochemistry - 3 Crs.** Provides students with skills and knowledge of organic and biological chemistry necessary for application within Nursing and other Allied Health careers. Emphasis is placed on recognizing the structure, physical properties and chemical reactions of organic molecules, body fluids and acids. Additional emphasis is placed on biological functions and their relationships to enzymes, proteins, lipids, carbohydrates and DNA. (Prerequisite: High school or college chemistry with a C or better)

**806-189 Basic Anatomy - 3 Crs.** Examines concepts of anatomy and physiology as they relate to health careers. Students correlate anatomical and physiological terminology to all body systems. This course is intended for programs that involve indirect patient care, i.e., Health Information Technology, Clinical Coding, Medical Transcription, etc. This is not an acceptable course in health-related programs that involve direct patient care, i.e., Nursing, Radiologic Technology, Surgical Technology, etc. This course is not acceptable as a course substitution for 806-177 General Anatomy and Physiology.

**806-197 Microbiology - 4 Crs.** Examines microbial structure, metabolism, genetics, growth and the relationship between humans and microorganisms. Addresses disease production, epidemiology, host defense mechanisms and the medical impact of microbes. Examines the role of microbes in the environment, industry and biotechnology. (Prerequisites: High school or college chemistry with a C or better; 806-177 General Anatomy and Physiology)

**806-375 Applied Science - 2 Crs.** Analyzes basic mechanical and electrical science concepts. Theoretical applications that relate to occupational situations are developed. Mathematical calculations and conceptual models are used throughout the course. (Prerequisite: 804-363 Algebraic Applications for Electrical Trades)

**806-376 Applied Physics - 2 Crs.** Analyzes basic mechanical, fluid and electrical science concepts. Theoretical applications that relate to occupational situations are developed. Mathematical calculations and conceptual models are used throughout the course.

**809-122 Introduction to American Government - 3 Crs.** Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Students examine the complexity of the separation of powers and checks and balances. Explores the role of the media, interest groups, political parties and public opinion in the political process. Explores the role of state and national government in our federal system.

**809-128 Marriage and Family - 3 Crs.** Introduces the sociological aspects of all intimate relationships, including marriage and diverse family forms in contemporary United States. Examines love, courtship, mate selection, sexuality, single-hood, marital patterns, and parenting practices. Explores the changes and challenges facing the family during its life cycle, including relationship violence, alcohol and drug abuse and divorce. Stresses cognitive, emotional and behavioral factors contributing to marital satisfaction, resilience and success.

**809-130 Stress Management - 1 Cr.** Develops effective stress management strategies. Explains the nature of stress and its impact on the individual. Emphasizes the practical application of a variety of coping skills.

**809-158 Adolescent Psychology - 3 Crs.** Focuses on biological, intellectual and social development of adolescents. Emphasizes development as a lifelong pattern of change based on maturation and experience. Special topics include moral development, adolescent disorders and juvenile delinquency. (Prerequisite: 809-198 Introduction to Psychology or 809-199 Psychology of Human Relations)

**809-159 Abnormal Psychology - 3 Crs.** Surveys the essential features, possible causes, assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students explore the diagnosis system of the DSM-IV, trace the history of the psychology of abnormality, examine cultural and social differences as well as current perspectives and diagnosis criteria and treatments. (Prerequisite: 809-198 Introduction to Psychology or 809-199 Psychology of Human Relations)

**809-161 Critical and Creative Thinking - 3 Crs.** Provides instruction in thinking, decision making, problem solving, idea formation, reasoning and creativity. Students apply critical and creative thinking strategies and enhance their knowledge and application of thinking processes as they examine their own thinking.

**809-166 Introduction to Ethics: Theory and Application - 3 Crs.** Provides a basic understanding of the theoretical foundations of ethical thought. Students analyze diverse ethical perspectives and compare relevant issues. Students critically evaluate individual, social and/or professional standards of behavior, and apply a systematic decision-making process to ethical dilemmas.

**809-172 Race, Ethnic and Diversity Studies - 3 Crs.** Explores ethnic relations within global and comparative perspectives. Students analyze majority/minority relations, ageism, sexism, sexual orientation, the disabled, and the Americans With Disabilities Act (ADA) within a multicultural context. Students also explore the history of immigration and conquest, principles of transcultural communication, legal liability, and appreciation for diverse aesthetic values to increase respectful encounters among people.

**809-188 Developmental Psychology - 3 Crs.** Explores human development throughout the lifespan including developmental theory and research with an emphasis on the interactive nature of the biological, cognitive and psychosocial changes that affect the individual from conception to death. Students engage in application and critical thinking activities to gain an increased knowledge and understanding of themselves and others.

**809-195 Economics - 3 Crs.** Provides an overview of how a market-oriented economic system operates, and surveys factors that influence national economic policy. Students explore economic concepts illustrated through a variety of contemporary problems and public policy issues. Students also examine scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. (Prerequisite: 801-195 Written Communication)

**809-196 Introduction to Sociology - 3 Crs.** Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multiculturalism, and the five institutions including family, government, economics, religion and education. Students examine sociological topics including demography, deviance, technology, environment, social issues, social change, social organization and workplace issues. (Prerequisite: 801-195 Written Communication)

## COURSE DESCRIPTIONS (CONT.)

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**809-197 Contemporary American Society - 3 Crs.** Examines the network of interdependent social systems which affects students as employees, family members and citizens. In this interdisciplinary course, students study public policy issues which illustrate how our traditional institutions such as family, education, government, work and media are being changed by global, political, demographic, multicultural and technological trends. By exploring contemporary issues, students expand their use of creative and critical thinking skills in evaluating information, making decisions, advocating positions, and participating in the democratic process.

**809-198 Introduction to Psychology - 3 Crs.** Surveys the multiple aspects of human behavior. Students survey the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. Students gain an insightful understanding of the complexities of human relationships in personal, social and vocational settings.

**809-199 Psychology of Human Relations - 3 Crs.** Explores the relationship between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding enables students to improve their relationships with others at work, in the family and in society.

**809-300 Occupational Success Strategies - 2 Crs.** Addresses employment skills that lead to productive working relationships. Emphasizes teamwork, customer service, interaction with diverse populations, problem solving, conflict resolution and handling feedback. Students practice stress management skills, strategies for maintaining mental and physical self-worth, and problem-solving approach to workplace transitions.

**831-103 Introduction to College Writing - 3 Crs.** Introduces basic principles of composition, including organization, development, unity and coherence in paragraphs and multi-paragraph documents.

**834-109 Pre-Algebra - 3 Crs.** Provides an introduction to algebra. Includes operations on real numbers, solving linear equations, percent and proportion, and an introduction to polynomials and statistics. Prepares students for elementary algebra and subsequent algebra-related courses.

**836-113 Prep for Anatomy and Physiology - 2 Crs.** Introduces students to basic principles of biology. Students will become familiar with the nature of science, basic biochemistry concepts, and the structure and function of a cell.

**838-104 Introduction to College Reading - 2 Crs.** Provides students with opportunities to develop and expand reading skills including comprehension and vocabulary. Students apply reading skills to academic tasks and read to acquire information from a variety of sources. (Prerequisite: Assessment score placement on college entrance exam)

**890-125 Student Success - 1 Cr.** Develops tools and strategies that support success in college. Focuses on study skills, college resources, goal setting, time management and learning styles. Introduces basic concepts for self-assessing learning and completing an Exit Assessment that provides evidence that learning took place. Students should take this course prior to or during the first semester of their program.

**890-130 Career Development - 1 Cr.** Provides opportunity for students to document career skills and attitudes and articulate career plans. Students analyze trends and opportunities in their targeted career, reflect on learning experiences, submit an exit assessment (required for graduation), start a career portfolio, and write a cover letter and résumé.

# REMEDIAL AND DEVELOPMENTAL COURSES

**851-xxx Communications:** Develops and applies skills in grammar, sentence mechanics and construction, capitalization, punctuation and spelling. Develops skills of the writing process for paragraphs and essays. Students enroll in the course that best serves their learning goal and current skill level based on assessment and instructor recommendation.

**854-xxx Mathematics:** Develops math skills with whole numbers, percents, fractions, decimals and basic geometric figures. Emphasizes number concepts, work problems, basic formulas, measurements and interpreting graphs, tables and charts. Introduces algebraic principles and basic geometric figures and formulas. Students enroll in the course that best serves their learning goal and current skill level based on assessment and instructor recommendation.

**856-xxx Science:** Examines broad concepts of science including unifying themes, scientific inquiry, problem solving, interaction of matter and energy, forces and characteristics and structure of living things. Unique courses present basic facts from disciplines of biology, general science and environmental science. Students enroll in the course that best serves their learning goal and current skill level based on assessment and instructor recommendation.

**857-777 Health:** Explores general topics of environmental, mental and emotional health, including physical fitness, nutrition, contagious diseases, first aid and reproduction. Students enroll based on instructor recommendation.

**858-xxx Reading:** Develops and applies basic reading skills of vocabulary, identifying stated and implied main ideas, comprehension, applying information from content, using critical reading skills and thinking strategies. Students enroll in the course that best serves their learning goal and current skill level based on assessment and instructor recommendation.

**859-xxx Social Studies:** Focuses on applying social studies information in the content areas of U.S. History, World History, Civics and Government, Economics, Environmental Science and Geography. Interprets cartoons, maps, charts and photographs. Examines cartoons, maps, charts and photographs. Examines almanacs, atlases and historical documents. Course numbers 859-712 and 859-766. Students enroll in the course that best serves their learning goal and current skill level based on assessment and instructor recommendation.

**860-765 Basic Computer Skills:** Introduces students to the personal computer. Skills developed include turning the computer on and off, basic keyboarding and using Microsoft Windows XP, Windows Explorer, Internet, e-mail and Microsoft Word. Prepares students for personal computer applications, for Moraine Park's introductory computer credit classes and/or for using computer software as part of the Basic Education instructional program.

**861-xxx English Language Learning:** Develops English language skills of listening, speaking, reading and writing for those whose native language is not English. Contexts of learning include social, occupational and educational settings. Instruction is offered at levels including Beginning Literacy ELL, Low Beginning ELL, High Beginning ELL, Intermediate ELL, High Intermediate ELL and Advanced ELL. Students are assigned to the appropriate level as determined by assessment.

**861-755 English for the Workplace:** Provides multi-level ESL instruction for developing competency in work-related communicative skills. Learning activities simulate language and expressions that require occupational knowledge. Language skills about work ethics, interpersonal relations, safety on the job and specialized terms will be demonstrated. Students enroll based on instructor recommendation.

**861-758 Community Connections:** Introduces students to local/state sites through field experiences, with pre- and post-classroom activities. Provides students with direct access to and practice with various agencies and services, such as health, banking, education, government and business and industry. Students enroll based on instructor recommendation.

**861-775 Preparation for Citizenship:** Provides a comprehensive guide for ESL students preparing to become naturalized U.S. citizens. Students practice listening, speaking, reading and writing skills necessary to pass the naturalization requirement tests. (Prerequisites: A minimum ESL proficiency at the high-beginning/low-intermediate level. Student must be eligible for U.S. citizenship.) Students enroll based on instructor recommendation.

**890-742 Living Successfully Today:** Focuses on successful financial living by analyzing present and future finances. Students enrolling in this course should have a 7th grade reading level. Students enroll based on instructor recommendation.

**890-743 Parenting Successfully Today:** Focuses on techniques to improve parent and child relationships by developing positive guidance, encouraging positive behavior, improving communication skills, living healthier lifestyles, learning about child development and selecting family activities. Students participate in small group, parent-child activities, individualized instruction and online activities. Students enroll based on instructor recommendation.

**College Entrance Exam Preparation:** Prepares students for exams such as the ACCUPLACER, ACT, SAT, COMPASS, etc. Readiness is assessed and instructors customize a plan, enrolling students in courses to review basic concepts in reading, grammar, arithmetic and algebra as needed.



Visit our Web site for the latest course information.

[www.morainepark.edu](http://www.morainepark.edu)

# BOARD MEMBERS, ADMINISTRATION AND FACULTY

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### Jodine Deppisch, Vice Chairperson

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Member-at-Large

### Mary Kerrigan

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Employee Member

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Member-at-Large

### Mike Miller

Elected Official

### Robb Steiner

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### Richard Zimman, Ph.D.

School District Administrator

## Administration and Faculty:

### Adams, Michele L.

Safety Associate

A.A.S., State University of New York City

B.S. (2), Ohio University

M.S., Silver Lake College

### Allen, Nadine L.

Quality Improvement/AQIP Associate

B.S., University of Wisconsin-Platteville

### Alsteens, Mary J.

Nursing Instructor

B.S.N., M.S.N., University of Wisconsin-Oshkosh

### Alt, Penny

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A.D.N., Normandale Community College

B.N., Aurora University

M.S.N., Marquette University

### Andersen, Amy C.

Counselor

B.S., M.Ed., University of Wisconsin-Oshkosh

### Arndt, Marcia A.

Dean of Manufacturing Technologies

B.S., University of Wisconsin-Stout

M.S., University of Wisconsin-Madison

### Atkins, Joyce E.

Upward Bound Grant Activity Associate

B.Ed., University of Toledo

M.Ed., University of Wisconsin-Oshkosh

M.S., University of Wisconsin-Milwaukee

### Baerwald, Bonnie

Vice President - Finance and Facilities

B.B.A., University of Wisconsin-Whitewater

M.P.A., University of Wisconsin-Oshkosh

### Baierl, Hans J.

District Libraries Associate

M.L.S., University of Wisconsin-Milwaukee

### Bandler, Mary L.

Respiratory Care Practitioner Instructor

A.D., Milwaukee Area Technical College

B.A., Concordia University

M.S., Marian University

### Barnhouse, Richard

Dean of Students

B.A., Brock University

M.A., Central Michigan University

Ph.D., Cardinal Stritch University

### Bartelt, Todd A.

Radiography Instructor

A.D., Lakeshore Technical College

B.S., Marian University

### Barz, Laurie J.

Economic and Workforce Development

Representative - Hartford and West Bend

A.D., Moraine Park Technical College

B.A., M.B.A., Concordia University

### Bau, Linda C.

Clinical Lab Instructor

B.S., Marian University

M.P.A., University of Wisconsin-Oshkosh

### Bauer, Bonita M.

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B.Ed., M.Ed., University of Wisconsin-

Whitewater

### Bauer, Cheryl A.

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A.D.N., Moraine Park Technical College

B.S.N., Concordia University

### Bauer, Janet

Medical Assistant Instructor

A.D.N., Moraine Park Technical College

### Beach, Jeffrey J.

Welding Instructor

A.A.S., Milwaukee Area Technical College

### Bernhard, Cynthia L.

Business Technology and

Computer Applications Instructor

B.S., University of Wisconsin-Stout

M.A., Marian University

### Bertram, Nancy E.

Surgical Technologist Instructor

Diploma, Moraine Park Technical College

B.S., Marian University

### Bjork, Anders

Web Services Associate

### Bird-Roehrig, Rhonda J.

Careers Instructor

B.A., M.S., University of Wisconsin-Whitewater

### Birringer, Charles E.

Purchasing Associate

B.A., University of Wisconsin-Madison

M.S.E., Milwaukee School of Engineering

### Blankinship, George W.

EMS Instructor

B.A., Lake Superior State University

### Block, Brenda L.

Accounting Instructor

A.D., Moraine Park Technical College

B.A., Lakeland College

### Bolender, Joan S.

Nursing Instructor

B.N., Marian University

M.S., University of Wisconsin-Oshkosh

Ph.D., Cardinal Stritch University

### Bosveld, Julie A.

Assistant to the Vice President

Certificate, Moraine Park Technical College

A.D., Moraine Park Technical College

B.B.A., Marian University

### Bouchard, Eileen L.

Barber/Cosmetology Instructor

Diploma, Universal Academy Hair Design

### Brace, James

Corrections Science Instructor

A.D., Moraine Park Technical College

B.A., Marian University

### Brendel, Charles

Dean of Continuing Education and

Institutional Quality

Diploma, Lakeshore Technical College

### Breszee, Susan K.

Math Instructor

B.S., University of Wisconsin-Stevens Point

M.S., University of Wisconsin-Oshkosh

# ADMINISTRATION AND FACULTY (CONT.)

**Broske, Kathleen M.**

Vice President - Human Resources  
B.S., University of Illinois  
M.B.A., University of Wisconsin-Oshkosh

**Brown, Barbara M.**

Nursing Instructor  
A.D.N., Moraine Park Technical College  
B.S.N., Graceland University

**Bruegman-May, Karrie J.**

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A.D.N., Blackhawk Technical College  
B.N., M.S.N., Marian University

**Budde, Julie G.**

Network and Systems Support Associate  
A.D., Moraine Park Technical College  
B.S., M.S., Silver Lake College

**Bullock, Jonathan B.**

Vice President - Strategic Advancement  
B.B.A., University of Wisconsin-Madison  
M.B.A., University of Wisconsin-Oshkosh  
Ph.D., Marian University

**Calvin, Cynthia L.**

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B.A.E., Wayne State University  
M.Ed., University of Nebraska

**Campopiano, Ronald P.**

Sociology Instructor  
B.A., M.S., Ph.D., University of Wisconsin -  
Milwaukee

**Carnahan, Kenneth V.**

Anatomy and Physiology Instructor  
B.A., Hanover College  
M.S., Indiana University  
Ph.P., Ohio College of Podiatric Medicine

**Cawley, John F.**

Tool Design Engineering Instructor  
Diploma, ACME Institute of Technology

**Christian, Kristeen R.**

Resource Development Associate  
B.S., Marian University  
M.S., University of Wisconsin-Milwaukee

**Christianson, Wendy M.**

Student Learning Specialist  
B.A.E., University of Wisconsin-Stevens Point  
M.A., Fielding Institute

**Clark, Larry**

Metal Fabrication Instructor  
Certificate, Wisconsin Indianhead  
Technical College

**Clemens, Timothy**

CNC/Tool and Die Technologies Instructor

**Coley, Karen I.**

Beaver Dam Campus and Community Partner  
B.B.A., University of Wisconsin-Madison

**Cook, Danielle R.**

Surgical Technologist Instructor  
A.A.S., Milwaukee Area Technical College  
B.S., University of Wisconsin-LaCrosse

**Corrente, Francesco**

Automotive Technician Instructor

**Crimmings, Timothy J.**

Fire Training Instructor

**Daniels, James R.**

Automotive Technician Instructor

**Denow, Thomas**

Engine Technology Instructor  
B.S., University of Wisconsin-Stout

**Diemer, Cynthia A.**

Economic and Workforce Development  
Representative  
B.A., Ripon College

**Dilling, Julie L.**

Accounting Instructor  
B.B.A., University of Wisconsin-Whitewater  
M.B.A., University of Wisconsin-Oshkosh

**Dodge, Jean M.**

Communications Associate  
B.F.A., University of Wisconsin-Oshkosh

**Domenosky, Danielle M.**

Barber/Cosmetology Instructor  
Diploma, Moraine Park Technical College

**Dudzinski, Christopher R.**

Marine Power Equipment Instructor  
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**Ebert, Kathryn J.**

Programming and Design Associate  
A.D., Moraine Park Technical College  
B.A., Silver Lake College  
M.S., Marian University

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Executive Dean of Instruction  
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M.B.A., Cardinal Stritch University

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B.S., Northland Baptist Bible College  
M.S., Marquette University

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Vice President - Academics and Student Affairs  
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M.S., Silver Lake College

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# ADMINISTRATION AND FACULTY (CONT.)

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**Gradinjan, Michael**

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M.S.N., Marquette University

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M.S., Norwich University

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M.D.I., Saint Francis Seminary

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# ADMINISTRATION AND FACULTY (CONT.)

**Kromanaker, Lisa**

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**Krueger, Valerie K.**

Associate, President's Unit

**Lace, Colleen A.**

Medical Assistant Instructor  
B.S., University of Wisconsin-Oshkosh

**Langemak, Kristin K.**

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B.S., Bradley University  
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M.A., University of Wisconsin-Milwaukee  
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**Lentz, Constance H.**

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**Lien, Laura L.**

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B.S., Franklin University

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M.S., University of Wisconsin-Milwaukee

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Associate Director - Human Resources  
B.S., M.B.A., University of Wisconsin-Oshkosh

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Nursing Instructor  
A.D.N., Waukesha County Technical College  
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Veterinary Technician Instructor  
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M.S., Louisiana State University  
D.V.M., Kansas State University

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Plumbing Apprentice Instructor

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M.D.I., M.T., Trinity Divinity

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One-Stop Services Partner  
A.D., Moraine Park Technical College

# WHO TO CONTACT AND ACADEMIC CALENDAR

## Who to Contact

### Admissions/Program Meeting

Student Services Call Center 920-924-3207  
or 1-800-472-4554

### Advanced Standing

All Campuses 920-924-6405

### Apprenticeship

All Campuses 262-335-5840  
262-335-5841

### Bookstore

Beaver Dam Campus 920-887-4407  
Fond du Lac Campus 920-929-2105  
West Bend Campus 262-335-5774

### Career Planning

Beaver Dam Campus 920-887-4437  
Fond du Lac Campus 920-924-3408  
West Bend Campus 262-335-5854

### Class Registration Questions

Student Services Call Center 920-924-3207  
or 1-800-472-4554

### Cosmetology Appointments

Fond du Lac Campus 920-929-2106

### Disabilities Services

Beaver Dam 920-887-4496  
Fond du Lac Campus 920-924-3196  
West Bend Campus 262-335-5741  
All Campuses 920-924-3192

### Financial Aid/Veterans/Scholarships

Student Services Call Center 920-924-3207

### General Questions/Information

Student Services Call Center 920-924-3207  
or 1-800-472-4554

### Library

Beaver Dam Campus 920-887-4406  
Fond du Lac Campus 920-929-2470  
West Bend Campus 262-335-5759

### Parts Store

Fond du Lac Campus 920-929-2118

### Placement Testing

Beaver Dam Campus 920-887-4428  
Fond du Lac Campus 920-924-3408  
West Bend Campus 262-334-3413

### Student Success Centers

Beaver Dam Campus 920-887-4436  
Berlin 920-361-3601  
Fond du Lac Campus 920-929-2108  
Fond du Lac Job Center 920-926-1241  
West Bend Campus/  
Washington County Workforce  
Development Center 262-335-5775

### Tours and College Visits

Beaver Dam Campus 920-887-4484  
Fond du Lac Campus 920-924-3347  
West Bend Campus 262-335-5853

### Transcripts and Records

All Campuses ..... 920-922-8611

**1-800-472-4554**

**Web Site: [morainepark.edu](http://morainepark.edu)**

**TTY: 920-929-2109**

## Academic Calendar

### Fall Semester

#### Semester One (Terms 1 and 2)

#### August 2010

23 .....First Day of Class  
Fall 2010

#### November 2010

3 - 5 .....Returning Student Registration  
for Spring 2011

10 .....New Student Registration  
for Spring 2011

17 .....Pre-Core, Shared and  
Certificate Student Registration  
for Spring 2011

#### December 2010

1 .....Open Registration  
for Spring 2011

6 - 17 .....Book Buyback

20 .....Last Day of Class  
Fall 2010

### Spring Semester

#### Semester Two (Terms 3 and 4)

#### January 2011

3 - 14 .....Winterim

24 .....First Day of Class  
Spring 2011

#### April 2011

5 .....Program Registration  
for Summer 2011

6 .....Open Registration  
for Summer 2011

12 - 14 .....Returning Student Registration  
for Fall 2011

#### May 2011

10 - 12 .....New Student Registration  
for Fall 2011

21 .....Graduation

16 - 20 .....Book Buyback

23 .....Last Day of Class  
Spring 2011

#### June 2011

15 .....Open Registration  
for Fall 2011

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1. Nombre legal: Apellidos Primer Nombre Segundo Nombre

Apellidos anteriores (si aplica, por ejemplo: apellido de soltera)

3. Dirección permanente Calle o número de buzón R.F.D.

4. Ciudad Estado Código Postal

5. Dirección de envío (en caso de ser diferente) Calle o número de buzón RFD

6. Ciudad Estado Código Postal

7. Teléfono Teléfono alternativo /Trabajo

8. Dirección de correo electrónico (si cuenta con una)

9. Número de seguro social

10. Sexo  masculino  femenino

11. Fecha de nacimiento Mes Día Año

12. Es usted veterano de los EE.UU?  Sí  No

13. Si usted no es ciudadano de los Estado Unidos o Residente Permanente, por favor proporcione:

Tipo de Visa Número de Visa

14. Soy un residente legal de:

Ciudad / Aldea / Municipio (círcule una y escriba el nombre)

Condado Estado

15. Nombre del distrito de la preparatoria en el que usted ahora reside

16. Esta información es voluntaria y confidencial. Su respuesta no afectará la admisión al colegio técnico. Origen étnico.

Indígena americano/ Nativo de Alaska  Asiático  
 Nativo hawaiano u otro Isleño del Pacífico  Otro  Hispano  
 Negro, no de origen Hispano  Blanco, no de origen Hispano

17. Deseo asistir el Colegio Técnico \_\_\_\_\_ en el campus \_\_\_\_\_

18. ¿Ha asistido usted este colegio antes?  Si  No

En caso afirmativo, escriba el último año y semestre asistió \_\_\_\_\_

19. Semestre en el que desea comenzar  Otoño  Invierno/Primavera  Verano Año \_\_\_\_\_

20. Programa preferido (1ª opción) \_\_\_\_\_ Código del Programa (si lo conoce) \_\_\_\_\_

Programa preferido (2ª opción) \_\_\_\_\_ Código del Programa (si lo conoce) \_\_\_\_\_  
(opcional)

21. Nombre de última preparatoria a la que asistió \_\_\_\_\_ Ciudad \_\_\_\_\_ Estado \_\_\_\_\_ Terminó la preparatoria?  Sí  No  
(Fecha de graduación) \_\_\_\_\_

22. Si no completó usted la preparatoria y recibió un diploma de preparatoria, ¿ha completado usted un \_\_\_\_\_ GED? \_\_\_\_\_ HSED ?

Si éstos es el caso, en que fecha lo completó \_\_\_\_\_, fue expedido por \_\_\_\_\_

23. Círcule el grado más alto que completó 8 9 10 11 12 13 14 15 16 17 más alto

24. Liste los colegios y las universidades a los que ha asistido anteriormente (calificaciones oficiales serán requeridas para la transferencia de créditos)

Nombre	Ciudad	Estado/Provincia	Fechas en las que asistió se graduó	Fechas en que Inicio/Término
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

25. Certifico que la información en esta solicitud es verdad y esta completa de acuerdo a mi mejor conocimiento

Fecha \_\_\_\_\_ Firma \_\_\_\_\_

Para el uso exclusivo de la oficina

1. Student classification - circle one: 1. New 2. Re-entry 3. Transfer 2. Residency status - circle one: 1. Resident 2. Non district 3. Out of state 4. Reciprocal

3. County code \_\_\_\_\_ 4. High school code \_\_\_\_\_ 5. Date received \_\_\_\_\_ 6. Date accepted \_\_\_\_\_ 7. Admit Status \_\_\_\_\_





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/Mobile phone number \_\_\_\_\_

8. E-mail address \_\_\_\_\_

9. Gender  Male  Female

10. Social Security Number \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

11. Date of birth \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_  
Month Day Year

12. Are you a U.S. veteran?  Yes  No

13. Are you a U.S. Citizen?  Yes  No

If No, then: are you in the U.S. on a Visa?  Yes  No  
are you a Permanent Resident?  Yes  No

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) \_\_\_\_\_  
\_\_\_\_\_  
City/township County State

15. Name of high school district in which you now reside: \_\_\_\_\_

16-17. The following questions are confidential. Your responses will help the technical college evaluate recruitment and retention practices and will not affect admission to the college. Question 16(a) and 16(b) relate to racial and ethnic identity. Please respond to both questions.

16(a). Ethnicity: Are you Hispanic or Latino (that is, a person of Cuban, Mexican, Puerto Rican, South or Central American or other Spanish culture or origin, regardless of race)?  Yes  No

16(b). Racial identity: Select the racial group or groups that apply to you.

- American Indian or Alaska Native.** A person whose ancestors include native peoples of North and South America (including Central American), and who maintains a tribal affiliation or community attachment.
- Asian.** A person whose ancestors include native peoples of the Far East, Southeast Asia or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand and Vietnam.
- Black or African American.** A person whose ancestors include any of the black racial groups of Africa.
- Native Hawaiian or other Pacific Islander.** A person whose ancestors include the native peoples of Hawaii, Guam, Samoa or other Pacific Islands.
- White.** A person whose ancestors include native peoples of Europe, the Middle East or North Africa.

17. Have either of your parents completed a four-year college degree or beyond?  Yes  No

18. I wish to attend \_\_\_\_\_ Technical College at \_\_\_\_\_ Campus

19. Have you attended this college before?  Yes  No If yes, last year and semester attended \_\_\_\_\_

20. Semester you wish to begin  Fall  Winter/Spring Year \_\_\_\_\_

21. Program/major choice \_\_\_\_\_ Program code # (if known) \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_

22. Name of last high school \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_

Are you a high school graduate?  Yes  No If yes, please enter your graduation date (month/year) \_\_\_\_\_

23. If you did not complete high school and receive a diploma, have you completed either the GED® Tests?  Yes  No or HSED?  Yes  No

If yes, date completed \_\_\_\_\_, administrator \_\_\_\_\_

24. Have you taken a high school course for technical college credit? (Such as Youth Apprenticeship, Certified Nursing Assistant, Certified Co-ops)

Yes  No (transcript or certificate required for verification)

25. Circle highest grade completed 8 9 10 11 12 13 14 15 16 17 over

26. List previous colleges and universities attended (official transcript will be required for credit transfer)

Name	City	State/Province	Dates attended	Date graduated
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

27. I certify that the information on this application is true and complete to the best of my knowledge

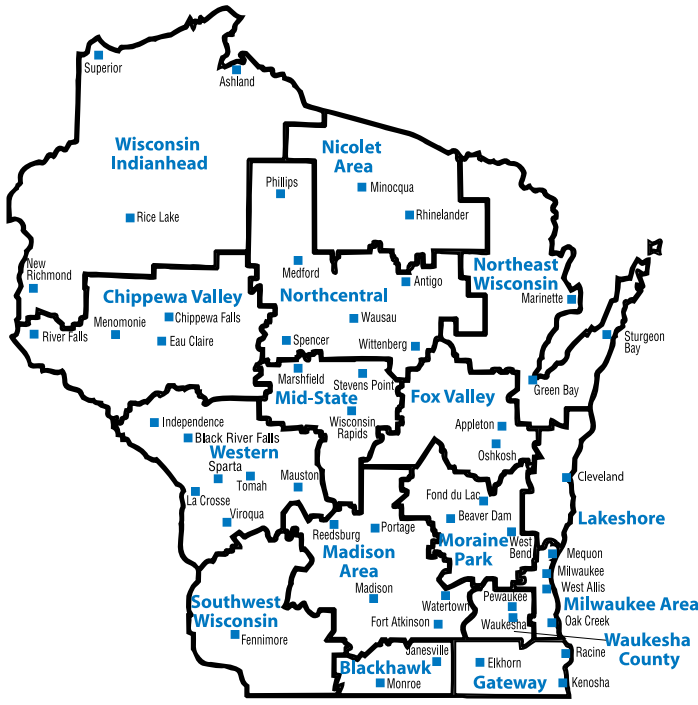
\_\_\_\_\_  
Date Signature

**For office use only**

1. Student classification: 1. New 2. Re-entry 2. Transfer 3. Date received \_\_\_\_\_ 7. Admit Status \_\_\_\_\_

Note \_\_\_\_\_ STATEAP 04/08

# INSTRUCTIONS FOR COMPLETING THE APPLICATION FOR ADMISSION



## Wisconsin Technical College Districts

■ Denotes campuses

Most colleges have additional centers or locations where specific courses are available. Contact the college of your choice for this information.

You can also apply online

[www.witechcolleges.org](http://www.witechcolleges.org)

### DID YOU REMEMBER TO:

- ✓ Enclose the \$30 application fee
- ✓ Request copies of official transcripts
- ✓ Send the application form directly to the college

## COMMITMENT 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 Affirmative Action Officer in each technical college is designated to handle inquiries and/or complaints regarding discrimination matters.

This application form is the first step toward admission to any program (major) in the Wisconsin Technical College System. Once the college receives the form and appropriate fee, it will send you further information on requirements and/or procedures.

### GENERAL INSTRUCTIONS

- Complete all sections of the form.
- Please print clearly.
- Consult the college of your choice for application dates, specific program (major) 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 **directly to each college**.
- Apply early!

### APPLICATION FEE

- Attach the \$30 nonrefundable application fee to each application you complete. Send a check or money order made out to the college, do not send cash.
- The \$30 fee (per college) is a one time only fee.
- Each application must include the \$30 application fee.

### TRANSCRIPTS

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### TESTING/ASSESSMENT

- Many Wisconsin Technical Colleges require testing for acceptance into specific programs. Test results are generally used to place 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 for 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.

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1. Legal name: Last \_\_\_\_\_ First \_\_\_\_\_ Middle \_\_\_\_\_

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4. City \_\_\_\_\_ State \_\_\_\_\_ Zip Code \_\_\_\_\_

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7. Phone number \_\_\_\_\_ Other/Mobile phone number \_\_\_\_\_

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9. Gender  Male  Female

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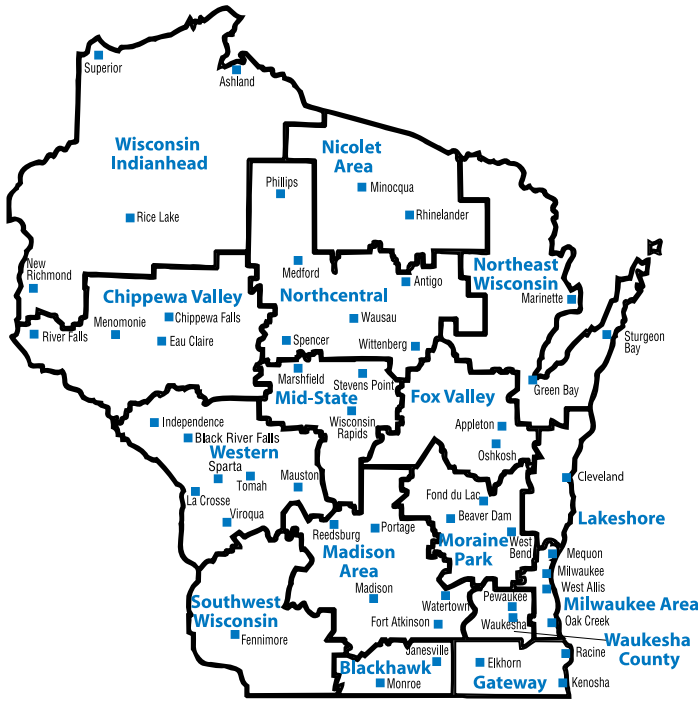
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### **Beaver Dam**

700 Gould St., Beaver Dam, WI 53916-1994

Phone: 920.887.1101

Fax: 920.887.4454 or 887.4408

### **Fond du Lac**

235 N. National Ave., Fond du Lac, WI 54935-2884

Phone: 920.922.8611 Fax: 920.929.2478

Toll Free: 1.800.472.4554

### **West Bend**

2151 N. Main St., West Bend, WI 53090-1598

Phone: 262.334.3413 Fax: 262.335.5708

In Wisconsin Call 1-800-472-4554

TTY 920-929-2109

