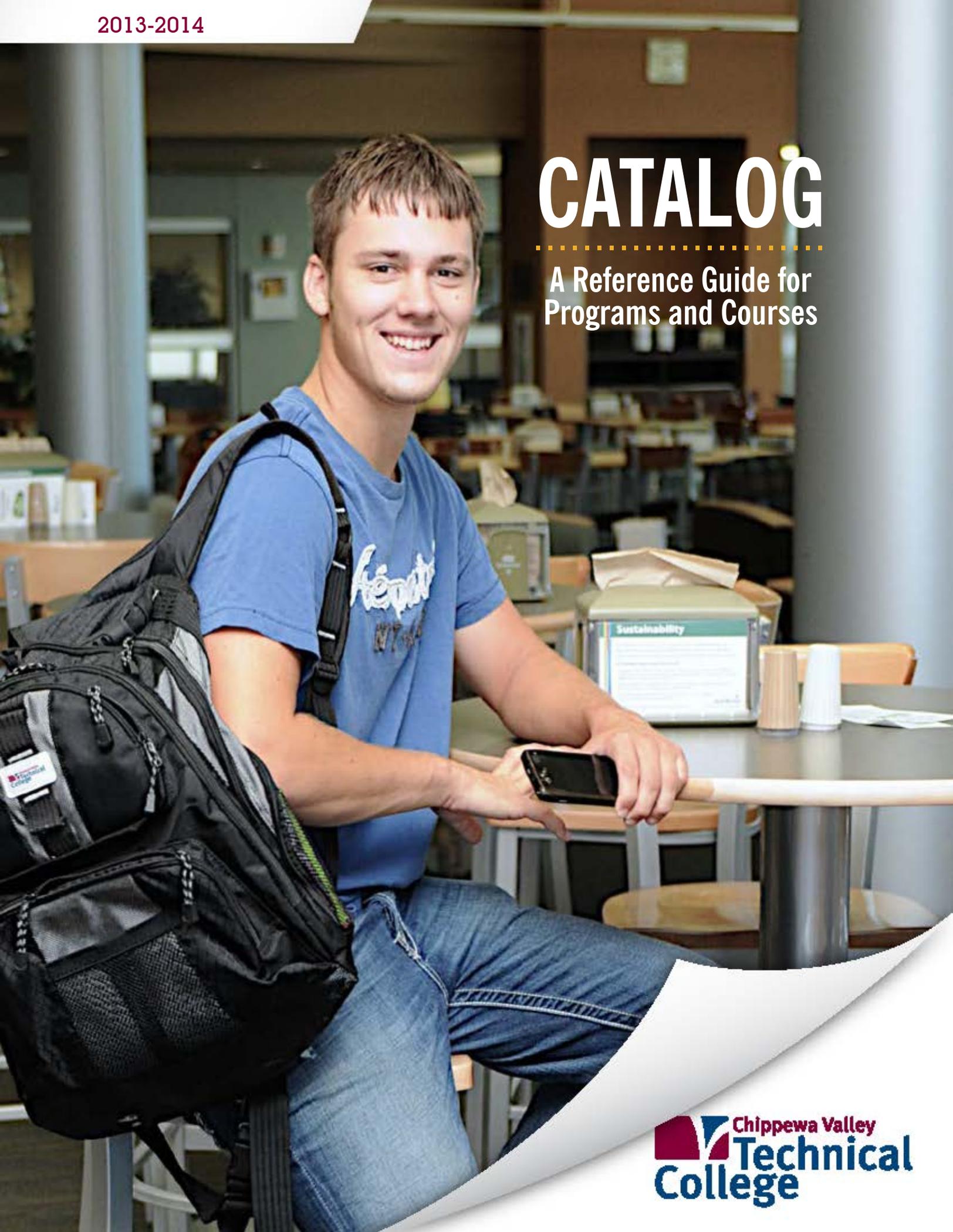


# CATALOG

A Reference Guide for  
Programs and Courses



# 2013-2014 Catalog

www.cvtc.edu

## Chippewa Valley Technical College Campuses/Centers:

### EAU CLAIRE – CLAIREMONT CAMPUS

#### Business Education Center

620 West Clairemont Avenue  
Eau Claire, WI 54701-6162  
715-833-6200  
1-800-547-2882  
715-852-1344 or 715-833-6509 (TTY)

#### Health Education Center

615 West Clairemont Avenue  
Eau Claire, WI 54701  
715-833-6417  
(mail must be directed to 620 West Clairemont Avenue  
Eau Claire, WI 54701-6162)

### EAU CLAIRE – GATEWAY CAMPUS

#### Manufacturing Education Center

2320 Alpine Road  
Eau Claire, WI 54703  
715-874-4600  
(mail must be directed to 620 West Clairemont Avenue  
Eau Claire, WI 54701-6162)

#### NanoRite Innovation Center

2322 Alpine Road  
Eau Claire, WI 54703  
715-874-4672  
1-866-399-6853  
www.Nanorite.org  
(mail must be directed to 620 West Clairemont Avenue  
Eau Claire, WI 54701-6162)

### EAU CLAIRE – WEST CAMPUS

#### Emergency Service Education Center

3623 Campus Road  
Eau Claire, WI 54703  
715-855-7500  
(mail must be directed to 620 West Clairemont Avenue  
Eau Claire, WI 54701-6162)

### EAU CLAIRE – WEST CAMPUS (continued)

#### Transportation Education Center

4000 Campus Road  
Eau Claire, WI 54703  
715-855-7531  
(mail must be directed to 620 West Clairemont Avenue  
Eau Claire, WI 54701-6162)

### CHIPPEWA FALLS CAMPUS

770 Scheidler Road  
Chippewa Falls, WI 54729  
715-738-3841  
1-800-511-9095

### MENOMONIE CAMPUS

403 Technology Drive East  
Menomonie, WI 54751  
715-232-2685  
1-800-622-5011

### NEILLSVILLE CENTER

11 Tiff Avenue  
Neillsville, WI 54456  
715-743-3965

### RIVER FALLS CAMPUS

500 South Wasson Lane  
River Falls, WI 54022  
715-425-3301  
1-800-480-0997

Approved by the State Board of Wisconsin Technical College System (WTCS)

WTCS website: [www.wtcsystem.edu](http://www.wtcsystem.edu)

Institutional Member of the American Association of Community and Junior Colleges

Accredited by The Higher Learning Commission and member of the North Central Association of Colleges and Schools  
North Central Association, 30 North LaSalle Street, Suite 2400, Chicago, IL 60602-2504; 312-263-0456 or 1-800-621-7440  
[www.ncahigherlearningcommission.org](http://www.ncahigherlearningcommission.org)

This catalog is not a contractual relationship between Chippewa Valley Technical College and the student. Chippewa Valley Technical College reserves the right to make changes in the regulations and programs published in this catalog without obligation or prior notice. The administrative staff reserves the right to change curricula, regulations, and course offerings as published in this catalog during the period of any student's attendance. Changes will be made in the interest of the student body to update and improve programs and services. Visit the College website at [www.cvtc.edu](http://www.cvtc.edu) for the most comprehensive and up-to-date information. Current as of 1-3-2013.

# College Directory

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<b>Campuses and Buildings</b>	<b>Phone</b>
Eau Claire - Clairemont Campus	
• Business Education Center .....	715-833-6200
• East and West Annexes	
• Health Education Center .....	715-833-6417
Eau Claire - Gateway Campus	
• Manufacturing Education Center .....	715-874-4600
• NanoRite Innovation Center .....	715-874-4672 or 866-399-6853
Eau Claire - West Campus	
• Emergency Service Education Center .....	715-855-7500
• Transportation Education Center .....	715-855-7531
Chippewa Falls Campus .....	715-738-3841
Menomonie Campus .....	715-232-2685
Neillsville Center .....	715-743-3965
River Falls Campus .....	715-425-3301

<b>Business Education Center</b>	<b>Room</b>	<b>Phone</b>
Academic Services (ABE) .....	212 .....	715-833-6400
Academic Services (Program Students).....	120Q .....	715-833-6201
Disability Services .....	120I .....	715-833-6234
Diversity Services .....	120F .....	715-833-6343
Information & Service Center.....	113 .....	715-833-6200
• Admissions .....	113 .....	715-833-6200
• Career Services .....	113 .....	715-833-6505
• Counseling and Advising Services .....	113 .....	715-833-6346
• Financial Aid.....	116 .....	715-833-6200
• GED <sup>®</sup> /HSED Testing .....	114 .....	715-833-6514
• Housing Information.....	113 .....	715-833-6267
• Registrar/Academic Records .....	113 .....	715-833-6200
• Registration.....	113 .....	715-833-6200
• Registration (TDD Phone).....	113 .....	715-833-6200 or 800-518-8211
Student Life.....	103A .....	715-833-6267
• Clubs Organizations		
• Student Activities		
• Student Government		
Technology Resource Library.....	120 .....	715-833-6285
Tech Prep Coordinator .....	109 .....	715-833-6411
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# College Calendar

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## 2013 Summer Term

---

### May

May 13–31 .....3-week Interim  
May 27 ..... Memorial Day Holiday - College Closed

### June

June 3–July 26 .....8-week Summer Session

### July

July 4 ..... July 4th Holiday - College Closed  
July 25 ..... Eau Claire Graduation  
July 29-Aug 20 .....4-week Interim

## 2013 Fall Term

---

### August

August 21–22 ..... Instructor Inservice  
August 26 ..... Classes Begin

### September

September 2 ..... Labor Day Holiday - College Closed

### October

October 21 ..... End of First 8 Weeks

### November

November 28–29 ..... Thanksgiving Holiday - College Closed

### December

December 16 ..... Last Day of First Semester Classes  
December 16 ..... River Falls Graduation  
December 17 ..... Eau Claire Graduation  
December 17 ..... Instructor Inservice  
December 24–25 ..... Christmas Holiday - College Closed

## 2014 Spring Term

---

### January

December 31 & Jan 1 ..... New Year's Holiday - College Closed  
January 8–9 ..... Instructor Inservice  
January 13 ..... Classes Begin

### March

March 13 ..... End of First 8 Weeks  
March 10–14 ..... Spring Break

### April

April 18 ..... Spring Holiday - College Closed

### May

May 8 ..... Last Day of Second Semester Classes  
May 8 ..... River Falls Graduation  
May 9 ..... Eau Claire Graduation  
May 9 ..... Instructor Inservice

## 2014 Summer Term

---

### May

May 12 ..... 3-week Interim Begins  
May 26 ..... Memorial Day Holiday - College Closed

### June

June 2–July 25 .....8-week Summer Session

### July

July 4 ..... July 4th Holiday - College Closed  
July 24 ..... Eau Claire Graduation  
July 28 ..... 4-week Interim Begins

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# Programs by Career Cluster

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## Certificates

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# College Overview

## Chippewa Valley Technical College District

Eau Claire • Chippewa Falls • Menomonie • Neillsville • River Falls



Chippewa Valley Technical College is one of sixteen colleges in the Wisconsin Technical College System (WTCS).

## Chippewa Valley Technical College District Board 2012-13

The District Board is responsible for establishing all College policies.

Colleen Bates, Elected Official Member  
Gary Brummeyer, Additional Member  
Francis Bucheger, Employer Member  
Larry Hagness, Additional Member  
Judith Kucera, Additional Member  
Ramona Mathews, Employee Member  
Russell Ratsch, Employer Member  
Gwen Southard, Employee Member  
Jennifer Vogler, School District Administrator

## The Vision of Chippewa Valley Technical College

CVTC is a dynamic partner for students, employers, and communities to learn, train, and succeed.

## The Mission of Chippewa Valley Technical College

CVTC delivers innovative and applied education that supports the workforce needs of the region, improves the lives of students, and adds value to our communities.

## Purpose of the Catalog

The primary purpose of the annual catalog is to serve as the College's most consolidated printed source of program and course information.

## Affirmative Action Compliance Statement

Chippewa Valley Technical College, in compliance with state and federal law and district policy, prohibits discrimination or harassment on the basis of race, sex, color, national origin, religion, creed, ancestry, arrest or conviction record, marital status, parental status, veterans' status, pregnancy, sexual orientation, age, or disability. In compliance with the Americans with Disabilities Act of 1990, reasonable accommodations for persons with disabilities will be made to assure access to educational programs and employment. In addition, the district will ensure physical accessibility to programs and facilities.

Any student, job applicant, or employee has a right to file a complaint due to alleged discrimination or harassment under the district's Discrimination/Harassment Complaint Policy. Student complaints of discrimination or harassment should be directed to Mike Ojibway, Diversity/Equal Opportunity Specialist, by mail at 620 West Clairemont Avenue, Eau Claire WI 54701; by telephone at 715-833-6343; or by e-mail at [mojibway2@cvtc.edu](mailto:mojibway2@cvtc.edu).

Job applicant or employee complaints of discrimination or harassment should be directed to Tam Burgau, Equal Opportunity Officer, by mail at 620 West Clairemont Avenue, Eau Claire WI 54701; by telephone at 715-852-1377; or by e-mail at [tburgau@cvtc.edu](mailto:tburgau@cvtc.edu).

## Guaranteed Student Retraining

A graduate of an associate degree program or vocational diploma program who is a resident of this state is exempt from the tuition and material fees for up to six (6) credits within the same occupational program for which the degree or diploma was awarded if the graduate applies for the exemption with the Vice President-Student Services within six (6) months of graduation and any of the following apply:

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

## Accreditation

Chippewa Valley Technical College is accredited by the North Central Association of College and Secondary Schools. The College is a part of the Wisconsin Technical College System, Madison, Wisconsin.

# Ways of Learning

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## Ways of Learning

We understand that everyone learns differently. Our courses are offered at numerous locations in traditional classroom settings, as well as online and in a variety of blended and hybrid formats. You get to select the learning method best suited for you and your lifestyle.

### Online Courses

Online learning provides the ultimate flexibility. You can participate from home, school, or your local library - anywhere with a computer and internet access. Never set foot in a classroom while entering the wonderful world of flexible learning. Online courses requires a high degree of self-motivation and time management skills are critical to success as there will be due dates for assigned work.

### Hybrid Courses

Hybrid Courses are a combination of face-to-face classroom instruction and online learning. The division of online and classroom instruction for each hybrid course will vary depending on the course content and the instructor preference, but typically one half of course is online and one half is in a classroom or lab. Active and independent learning is promoted.

### Web Conferencing

A web conferencing course is conducted on multiple campuses with the use of Microsoft Lync, an online collaboration tool that instructors use to present course materials. Students watch and listen to the lecture using a computer, and in some cases, the instructor may use a Web camera. The students and teacher communicate by voice, text chat, and question and answer interaction. Students are required to purchase a headset with microphone (available at the CVTC bookstore).

### Open Lab

Open lab courses at CVTC provide a location where students have access to the resources they need to complete their coursework at a flexible time.

There are currently two varieties of open lab courses:

#### Attendance Not Required

These courses allow you to complete your coursework at any time during the available lab hours. You may even be able to complete your coursework at home without coming to a campus.

#### Attendance Required

Courses are scheduled in labs that provide the necessary equipment for hands-on learning.

## RISE Courses

RISE courses are a form of contextualized learning, which means the course content is taught in the context of how it would be used in “real life.” In addition, academic support in related areas (reading, writing, and/or math), along with technology and study skills related to student success are built right into the course. Two CVTC instructors typically teach the course and provide content with academic support during each class session. There is no additional charge to students for this class format.

## Traditional - Face to Face

Traditional courses are in-person, face to face classes in a classroom.

### Accelerated

Accelerated classes use special instructional techniques chosen for their ability to help students learn and retain large amounts of information. Students do much of their learning on their own, often on the job, so that required classroom time is shortened.

### Interactive Television (ITV)

A modern telecommunications system that allows students to take classes from selected locations or right in their own community. An ITV class is just like a traditional class in structure except, the instructor and students may be in four different locations. All locations will see and hear each other at the same time and be able to interact continually throughout the class time

### Supplemental Instruction (SI)

CVTC is proud to offer Supplemental Instruction (SI). SI is an academic support model that utilizes peer assisted study sessions. The program targets traditionally difficult academic courses and provides regularly scheduled, out-of-class review sessions. The SI study sessions are informal seminars in which students compare notes, discuss readings, develop organizational tools and predict test items.

This project is funded through the Title III grant.

# General Program Tips

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**This list contains some of the most commonly used tip sheet terms on the program requirement sheets.**

## Transfer Credit

Individuals planning on transferring to a Wisconsin university have the option to take 200-level transfer courses that count towards general education requirements in the four-year degree being pursued. While some of the 100-level associate degree general education courses listed may meet approval for transfer, the 200-level courses ensure transfer.

To see which courses potentially transfer to a public postsecondary institution in Wisconsin, go to the Transfer Information System at [www.uwsa.edu/tis](http://www.uwsa.edu/tis):

- Click Credit Transfer Wizards
- Click Course Wizard

You must contact the college you wish to attend to find out exactly what they will transfer and when you should seek admission. The Transfer Information System does not include private colleges or out-of-state institutions.

## Prepared Learner

Prepared Learner classes are designed to get students ready for a variety of college-level academics, including reading, writing, math, and science. Scores on the COMPASS® or ACT assessments will tell us if you need to take one or more areas of these classes, which may be required for some general education classes. Students must successfully complete each required Prepared Learner class with a C grade or better before registering for some general education courses.

## Distance Learning

Some courses are available online. Check our website [www.cvtc.edu](http://www.cvtc.edu) for distance learning opportunities.

## Financial Aid Consideration

Some courses may not be eligible for financial aid. Courses must be part of a program to be eligible. A list of courses not eligible is located on [www.cvtc.edu](http://www.cvtc.edu).

## Pre-Program Students

*What is a pre-program student?*

A pre-program student may be taking courses before actual entry into the program core courses if any of the following apply:

- Program core courses are filled to capacity
- You wish to begin General Studies and elective courses before program core courses
- You are completing academic requirements and may receive financial aid

*Can students “speed up” their program and finish ahead of time by beginning as a pre-program student?*

You are not able to finish your program ahead of time because your program core courses must be taken sequentially and involve many prerequisites.

*What are the advantages of beginning as a pre-program student?*

You can finish many required courses before you take the highly demanding program core courses and may have a decreased credit load each term.

You develop important study skills, time management, and test-taking skills as you “ease into” the program with a lighter load of credits.

You can take 890-130 Introduction to College Life, a course which prepares you to get good grades by teaching note-taking, and test-taking techniques, study skills, and time management.

*What do you, as a pre-program student, have to watch for?*

You must estimate how long you will need to wait before beginning your program core courses. As this cannot be predicted exactly, you must make your best guess as you plan which courses to finish before you begin program core courses.

You may wish to spread your courses out in such a way that you will not “run short” of credits during your time at CVTC. In some cases, health insurance eligibility may depend upon full-time student status.

Federal financial aid requirements say that students must complete their programs by the time 150 percent of the published credits have been attempted.

## Internship

Locally located internship sites cannot be guaranteed. Students may have to move or drive a distance in order to complete internship courses. Scheduled internship attendance days and times for which students must be available vary by agency. Program faculty select, assign, and maintain College contracts with internship sites.

# Academic Services/Learning Centers

*Offered in Chippewa Falls, Eau Claire, Menomonie, Neillsville, and River Falls*

## Program Description

The Academic Services Center is a walk-in facility that provides academic instruction and services. Learning materials and one-to-one instruction are provided by qualified instructional personnel. In addition, peer tutoring is available for enrolled students requiring help with general education and degree-specific classes.

## Learning Center

Located in the Business Education Center, and home to a variety of academic support services, the Learning Center brings together faculty, staff, and resources. Designed to meet your learning needs, the Learning Center offers computers, printers, photocopies, study space, comfortable seating, group study rooms, WiFi, and more.

## Academic Services

The Academic Services team provides academic instruction, course preparation, and learning support. Learning materials and one-to-one instruction are provided by qualified faculty. No appointments necessary!

### Services Offered

- Homework help
- Study skills & test preparation
- College success seminars
- Technology support
- Peer tutoring and study groups

## Library Services

Located in the Learning Center at the Business Education Center, the library provides an array of materials and services for students and community members. Library staff welcome your questions and will help you access the resources you need.

## Diversity Services

CVTC Diversity Services helps students from diverse backgrounds make the most of their education and their CVTC experience. Students interact and study together, develop support groups and friendships, and take advantage of services and resources to help them achieve their academic and career goals.

## Disability Services

CVTC will provide and coordinate reasonable accommodations for all individuals with documented disabilities. Accommodations are designed to “level the playing field” by giving all students the same opportunity to succeed at CVTC. Services are free and confidential.

## Adult Education Services

As a community partner, CVTC provides quality adult education services free of charge. Certified faculty will work with you to develop an individualized personal education plan designed to meet your personal, career, and academic goals.

### Services Offered:

- High school contract
- GED/HSED

- College admission preparation
- Basic education
- Computer literacy
- English Language Learning (ELL) classes
- Job-seeking skills

## CVTC Learning Center/Locations

### Chippewa Falls Campus\*

Room 105  
770 Scheidler Road  
Chippewa Falls, WI 54729  
(715) 738-3845

### Eau Claire Clairemont Campus\*

Academic Services Lab  
Room 120 - The Learning Center  
620 West Clairemont Avenue  
Eau Claire, WI 54701  
(715) 833-6201

### Eau Claire Clairemont Campus

Adult Basic Education (ABE) and English Language Learner (ELL)  
Room 212  
620 West Clairemont Avenue  
Eau Claire, WI 54701  
(715) 833-6400

### Menomonie Campus\*

Room 103  
403 Technology Drive East  
Menomonie, WI 54751  
(715) 233-5344

### Neillsville Center\*

Room 102  
11 Tiff Avenue  
Neillsville, WI 54456  
(715) 743-3965

### River Falls Campus\*

Room 105  
500 South Wasson Lane  
River Falls, WI 54022  
(715) 426-8208

\*These centers offer COMPASS® testing (CVTC admissions assessment test).

## Description

If you enjoy working with numbers, have an interest in business, and are searching for a career path full of opportunity, the Accounting program may be right for you. Accounting is often referred to as the language of business. In this program, you will learn to record and interpret business data. You'll develop analytical skills that will enable you to seek a career as an accountant, controller, account receivable/payable clerk, tax preparer, payroll specialist, and office manager.

Computerized applications are incorporated to reflect current industry practices. You'll be prepared to

- set up and maintain accounting records and systems.
- analyze financial records.
- prepare individual and small business tax returns.
- prepare monthly and year-end financial reports.
- calculate, record, and make required payroll deposits and filings.

Accounting is a high growth area. According to the Bureau of Labor Statistics, employment of accountants and auditors is expected to grow faster than the average for all occupations through the year 2016. Accounting graduates are eligible to take the Accreditation in Accountancy (ABA) and/or an Enrolled Agent (EA) exam to further support your educational background. There are many opportunities when you have an accounting degree. You have options!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra

## Helpful Background

- High school accounting
- Computer literacy
- Mathematics

## Career Opportunities

- Accounts Payable/Receivable Specialist
- Payroll Accountant
- Cost Accountant
- Governmental Accountant
- Public Accountant
- Staff Accountant
- Tax Preparer

## Program Tips

### Computer Literacy

To be successful in this program, you must possess basic computer skills before entry (basic computer operations and basic keyboarding skills ) you must type at least 20 words per minute.

### Accounting Internship

The student is responsible for locating an accounting internship work-site and should use job-search skills while seeking an internship. The accounting internship instructor will assist the student in their search.

Accounting internship worksite and respective duties must be approved by the accounting internship instructor. Students are encouraged to start looking for an internship in the 3rd semester.

### Accreditation in Accountancy

Accounting graduates are eligible to take the Accreditation in Accountancy exam. If students pass the exam, they have earned the designation of Accredited Business Accountant and may use the initials ABA after their name.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
101-111	Accounting I	5	4	
103-102	Microsoft Office Suite	2	2	Computer literacy
801-136	English Composition I <b>OR</b>	3	3	(See Prepared Learner Guide)
801-219	English Composition I			(See Liberal Arts Placement Guide)
804-123	Math with Business Applications <b>OR</b>	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
102-160	Business Law	3	3	
<b>Total Term Hrs./Week and Total Credits</b>		<b>16-17 hrs.</b>	<b>15 cr.</b>	
<b>Second Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
101-106	Accounting Spreadsheets	4	2	101-111, 103-102
101-121	Payroll Accounting	3	3	
101-113	Accounting II	5	4	101-111
809-122	Introduction to American Government <b>OR</b>	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication	3	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>21 hrs.</b>	<b>18 cr.</b>	
<b>Third Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
101-116	Intermediate Accounting I	5	4	101-113
101-123	Income Tax I	5	4	101-111 with a grade of C or better, or instructor approval
101-150	Accounting Software Applications	5	3	101-111
101-125	Cost Accounting	4	3	101-113
801-198	Speech	3	3	
<b>Total Term Hrs./Week and Total Credits</b>		<b>22 hrs.</b>	<b>17 cr.</b>	
<b>Fourth Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
101-104	Database for Accounting	3	2	101-106, 103-102
101-118	Managerial Accounting	4	4	101-113
101-131	Accounting Systems	4	3	101-116, 101-150
101-160	Accounting Internship (128 hours)		2	101-116
101-126	Income Tax Preparation <b>OR</b>	4	2	Spring only, 101-123
101-133	Accounting for Government & Nonprofit Entities	2		101-113
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>16/18 hrs.</b>	<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 66

## Short-Term Training Certificate

- (TC-101-1) Small Business Accounting, 13 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire and River Falls • August and January entry dates in Eau Claire  
August entry date in River Falls

10-106-6

## Description

Are you looking for a rewarding career? Do you like being active on the job? Are you a people person? Do you enjoy working with technology? Are you interested in a variety of tasks? If so, the Administrative Professional associate degree program is for you!

The job of an administrative professional combines organizational and people skills with an expertise in information processing and office technology. Administrative professionals work with customers, perform general administrative/office duties, develop and prepare correspondence, conduct research, prepare presentations and events, process and transmit information, and assist others within the organization. The efficiency of any organization depends, in part, upon the administrative professionals who are at the center of communications.

The Administrative Professional program provides you with up-to-date training for today's high tech office and also provides a strong background in customer service and office-related skills and knowledge. In this program students learn to be efficient and effective office employees through the application of business procedures (proofreading, telephone messaging, managing records, arranging meetings and travel, communicating, researching, etc.) and software skills (word processing, desktop publishing, spreadsheets, presentations, electronic calendars, and databases). During the final semester in the program, you'll gain valuable work experience in a local business office while completing your administrative professional internship.

As an administrative professional, you will be employed in one of the largest and fastest growing occupations. Potential careers are available in diverse settings such as education, government, insurance/investment, industrial/manufacturing, legal, medical and service organizations.

## Admission Requirements

- COMPASS® pre-entry assessment
- Keyboarding assessment

## Career Opportunities

- Administrative Assistant
- Customer Service Representative
- Event Coordinator
- Executive Assistant
- Front Desk Coordinator
- Human Resources Assistant
- Information Processing Specialist
- Legal Office Support Staff
- Medical Office Support Staff
- Office Assistant
- Receptionist
- Records Assistant
- Secretary
- Virtual Assistant

## Program Tips

### Keyboarding Assessment

All entering students enrolling in the Administrative Professional program must take a typing assessment as part of the admissions process. This assessment measures keyboarding proficiency and skill. The results of the assessment are used to place students into the correct course. Students keying below 30 wpm take Basic Keyboarding (course number 103-103) as a prerequisite for eSkillbuilding (course number 106-119). Students keying between 30 and 49 wpm enroll in eSkillbuilding. Students keying at or above 50 wpm have the option of enrolling in eSkillbuilding or using their score towards a Challenge Exam.

### Administrative Professional Internship (106-138)

The internship is the culminating experience in the Administrative Professional program. You will perform administrative professional related activities on a job site for 128 hours during your final semester. You must have transportation to and from the internship site.

You should enroll in the internship in your final semester of the program concurrently with the Administrative Professional Development course (106-175). To register for the internship, students must note the prerequisites required (see the program planning sheet). If you have not completed these courses or are not registered for these courses concurrently, you will not be able to take the internship course.

The internship instructor will provide possible internship site locations, but it is always smart to network and develop a list of prospective sites on your own. All internship sites must be approved by the internship instructor prior to the start of the internship.

There is a possibility you may be able to use your current job as your internship site, depending on the responsibilities you are assigned, the tasks you perform, and the flexibility your employer. You MUST receive prior approval from the internship instructor before using your current job as your internship site.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
106-119	eSkillbuilding	2	1	Program student; Keyboarding speed $\geq$ 30 wpm or 103-103
106-163	Computer Success ( <i>1<sup>st</sup> 8 weeks</i> )	6	2	Program student
103-102	Microsoft Office Suite ( <i>2<sup>nd</sup> 8 weeks</i> )	4	2	
106-105	Business Words at Work	4	3	103-102 or concurrent
106-132	Exploring Office Environments	2	2	
106-140	Office Procedures	3	3	
809-199	Psychology of Human Relations <b>OR</b>	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology			(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>19 Hrs</b>	<b>16 cr</b>	
<b>Second Term</b>				
106-101	Business Technology & Trends	2	2	
106-146	Quality Customer Service	3	2	
106-164	Business Presentations & Publications	3	3	103-102
106-171	Advanced Software Applications	3	3	103-102
106-172	Office Communication	2	2	
801-196	Oral/Interpersonal Communication	3	3	
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>19 Hrs</b>	<b>18 cr</b>	
<b>Third Term</b>				
106-158	Meeting & Event Planning	2	2	
106-173	Web Technologies	3	3	
106-174	Business Software Solutions	3	3	106-164, 106-171
106-162	Legal Terminology <b>OR</b>	3	3	
501-101	Medical Terminology <b>OR</b>			
116-193	Intro to Human Resources			
801-195	Written Communication <b>OR</b>	3	3	(See Prepared Learner Guide)
801-136	English Composition 1			(See Prepared Learner Guide)
804-123	Math with Business Applications <b>OR</b>	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>17-18 Hrs</b>	<b>17 cr</b>	
<b>Fourth Term</b>				
106-138	Administrative Professional Internship (128 hours)		2	Program student, 106-101, 106-158, 106-173, 106-174, (Co-requisite 106-175)
106-175	Administrative Professional Development	2	2	Program student, 106-101, 106-158, 106-173, 106-174, (Co-requisite 106-138)
530-103	Medical Insurance & Billing <b>OR</b>		2	
102-112	Principles of Management <b>OR</b>	3	3	
106-141	Computer Applications Legal			
101-105	Accounting, Intro to <b>OR</b>	3	3	
101-111	Accounting I	5	4	
809-166	Intro to Ethics: Theory & Application	3	3	(See Prepared Learner Guide)
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>14-16 Hrs</b>	<b>15-17 cr</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 66

## Short-Term Training Certificate(s)

- (TC-106-5) Records & Information Mgmt. Specialist Certificate, 15 Credits
- (TC-106-6) Customer Service Representative, 10 Credits
- (TC-106-10) Software Specialist, 12 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're interested in a career in agriculture, consider the Agriscience Technician program. You select the courses you need for the area that appeals to you.

The Agronomy/Conservation Planning emphasis can lead to a variety of careers in:

- Farm supply business agronomy department
- Custom application of pesticides and fertilizers
- Mix, load, tender chemical/fertilizer deliveries
- Develop nutrient, pest management programs
- Identify pest problems
- Promote and demonstrate agronomic products
- Maintain inventory
- Lab technician
- Crop scout
- Certified custom applicator
- Crop production specialist

The Animal Science emphasis can lead to careers working with animals or assisting livestock owners in maintaining herd health:

- Livestock or Dairy Herd Manager
- Livestock Management Technician
- Sales/Service Representative
- Reproductive Management Specialist
- Dairy/Livestock Nutritionist

Associate degree program graduates may progress into serving as the manager of a fertilizer/chemical plant or branch location, or district product representatives. This could be the training you need for a rewarding career in the agriculture emphasis of your choice!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Agriculture experience
- Science courses
- Basic computer skills
- Economics courses

## Career Opportunities

- Crop Scout
- Certified Custom Applicator
- Crop Production Specialist
- Lab Technician
- Livestock Consultant
- Livestock/Dairy Herd Manager
- Livestock Nutritionist
- Nutrient Management Planner

## Program Tips

### Choosing an Emphasis

**Agronomy/Conservation Planning:** Work in agronomy departments of farm supply businesses; nutrient management planner; county watershed technician; custom apply pesticides and fertilizers; mix, load, and tender chemical and fertilizer delivery; identify pest problems; assist clients to develop nutrient and pest management programs, set up promotion and demo programs for agronomic products; and maintain inventory. Examples: Certified Custom Applicator, Crop Scout and Crop Production Specialist. Associate Degree graduates may work into positions as fertilizer and chemical plant managers, branch location managers, district product representatives.

**Animal Science:** Work in livestock-related agribusiness as local and district field reps in the areas of artificial insemination, feeds, milking equipment, and serve as nutrition and/or management consultants or serve as a service/product representative. Examples: Livestock/Dairy Herd Managers, Reproductive Management Specialists, Livestock Consultants/Sales/Service Representatives and Lab Technicians.

### August/January Start Times

A limited number of students are admitted in January if seats are available. They begin with classes listed as second semester courses. They then take third, fourth, and finally first semester courses.

### Summer Requirements

Courses required to be taken in the summer:

- 006-164 Plant Pathology and Entomology, 2 credits (Agronomy/Conservation Planning emphasis)
- 006-184 Herd Health and Sanitation, 2 credits (Animal Science emphasis)
- 006-190 Agriscience Internship, 3 credits

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
006-116	Introductory Soils (T, L)	4	3	
006-123	Agriculture Equipment (T, L)	4	3	
006-180	Animal Science (T, L) <b>OR</b>	4	3	
006-160	Plant Science (T, L) [ <i>1<sup>st</sup> 8 weeks</i> ]	8		
103-102	Microsoft Office Suite (T, L)	3	2	
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
804-107	College Mathematics (T, L)	3	3	(See Prepared Learner Guide)
	Electives	-	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>19 cr.</b>	
<b>Second Term</b>				
006-110	Genetics (L)	2	1	
006-138	Principles of Ag. – Products Mktg. (T, L)	4	3	
006-151	Plant Protection Products (T, L) <b>OR</b>	3	2	
006-120	Livestock Computer Applications (L)	4		
007-111	Applied Biotechnology (T, L)	3	2	
806-134	General Chemistry* (T, L)	5	4	High School Chemistry and Algebra, <i>or</i> 836-133 Prep for Chemistry. (See Prepared Learner Guide)
006-161	Weed Identification, (T) [ <i>2<sup>nd</sup> 8 weeks</i> ] <b>OR</b>	4	2	
006-188	Feed Analysis (L)	4		
	Elective	-	3	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Third Term (Summer)</b>				
006-164	Plant Pathology and Entomology (T, L) <b>OR</b>	8	2	
006-184	Herd Health and Sanitation (T)	6		
006-190	Agriscience Internship	36	3	Program student, flexible start
<b>Total Semester Hrs./Week and Total Credits</b>			<b>5 cr.</b>	
<b>Fourth Term</b>				
006-114	Legal Aspects of Agriscience (T) <b>OR</b>	2	2	
006-192	Farm Business Spanish <b>OR</b>	3		
006-168	Row Crop Management (T, L)	3		
006-122	Agriculture Facilities (T, L)	3	2	
006-130	Agribusiness Financial Management (T)	2	2	
006-140	Agribusiness Sales (T, L)	4	3	
809-195	Economics (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>12 cr.</b>	
<b>Fifth Term</b>				
006-162	Soil Fertility and Fertilizers (T, L) <b>AND</b>	3	2	
006-166	Computer Applications – Agronomy (L) <b>OR</b>	4	2	
006-182	Animal Reproduction (T, L) <b>AND</b>	4	3	
006-186	Managing Youngstock and Dry Cows (L)	2	1	
006-169	Forage Crop Management (T, L) <b>OR</b>	3	2	
006-189	Ration Formulation (T, L)	3		
801-198	Speech (T) <b>OR</b>	3	3	
801-196	Oral/Interpersonal Communication			
809-196	Introduction to Sociology <b>OR</b>	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations (T)			(See Prepared Learner Guide)
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 68**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

This is a program and career area that draws on your mechanical ability and analytical skills and offers excellent employment opportunities-including career advancements in many HVAC/R- and energy-related occupations. The Air Conditioning, Heating, & Refrigeration Technology (ACHR) program prepares you for careers designing, installing, and maintaining air conditioning, heating, and refrigeration equipment. You'll also learn how to work with geothermal, solar, and other renewable energy equipment.

The first semester of instruction serves as an introduction to the industry, with information on gas, oil, and electric furnaces; basic refrigeration and air conditioning systems; renewable energies; and principles of ACHR electricity.

The rest of your program will focus on specific applications:

- Geothermal systems, hydronics, and solar heating
- Print reading
- Load calculations
- Solving technical problems
- CAD
- Air handling system design and installation
- Advanced temperature controls
- HVAC systems design and drafting

After you graduate, you will be prepared to take the Environmental Protection Agency (EPA) Certification Exam for safe handling of refrigerants. The Industry Competency Exam (ICE) sponsored by the Air Conditioning and Refrigeration Institute for HVAC/R technicians is a requirement for all students.

Nationally there is a shortage of design, installation, and maintenance technicians, and an increasing need for technicians trained to work with alternative energy systems. This could be the program you need to launch your career!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- One year high school algebra or equivalent with a passing grade of "C" or better is strongly recommended
- Physics
- Computer-Aided Drafting
- Electricity

## Career Opportunities

- HVAC Designer
- Estimator
- Sales Representative
- Research and Development Technician
- Field Service and Installation Technician

## Program Tips

### Necessary Skills

#### Computer Skills

To be successful in this program, you must be familiar with a computer in some capacity. If you are not computer literate, Academic Services offers Basic Computer Literacy training free at many locations throughout the district.

#### Algebra Skills

834-110 Elementary Algebra With Applications or one year of high school algebra or the equivalent is strongly recommended prior to taking any 601, 606, or 607 numbered courses. If your algebra skills need to be upgraded, we recommend going to Academic Services at (CVTC) campus nearest you. Depending upon your assessment results, you will be advised to remediate your skills or enroll in 834-110. Students who need to remediate their algebra skills may not complete their program within two years.

#### Competency Exams

Technicians who pass the Industry Competency exam offered by the Air Conditioning Refrigeration Institute (ARI) demonstrate that they have met and surpassed nationwide industry standards. Students should see their instructors for details. The fee for this exam is approximately \$30. The Air Conditioning, Heating and Refrigeration Technology program prepares students to take the Environmental Protection Agency (EPA) 608 certification exam for refrigerant recovery, recycling, and reclamation. The fee for this exam is approximately \$25.

#### Tool Set Purchase

You will be required to purchase an approved tool set that costs approximately \$650 through CVTC. These tools will be used throughout the program.

#### Evening Course Opportunities

If you are interested in evening courses, contact the academic advisor at 715-833-6346 or 1-800-547-2882, ext.6346.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
601-125	Safety – HVAC	2	1	Program student
601-110	Principles of Heating and Air Flow (T, L)	8	4	601-141 or concurrent
601-111	Principles of Refrigeration (L)	4	2	601-141 or concurrent
601-116	Principles of Air Conditioning (L)	4	2	601-141 or concurrent
601-141	Electricity-HVAC (L)	6	3	
601-115	Renewable Energies for HVAC	2	1	Program student
801-195	Written Communication (T)	3	3	(Prepared Learner Guide)
804-113	College Technical Math 1A (T)	3	3	834-110, (Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>32</b>	<b>19cr.</b>	
<b>Second Term</b>				
601-114	Plan and Print Reading-HVAC (L)	4	2	
601-130	Sheet Metal Layout (L)	2	1	
601-142	Schematic Wiring-HVAC (L)	4	2	601-141
601-161	HVAC Load Calculations & Psychometrics (L)	6	3	Program student
601-119	Hydronic/Geothermal Systems Design (T, L)	6	3	Program student
601-120	Geothermal/Solar Applications (L)	4	2	
804-114	College Technical Math 1B (T)	2	2	804-113
809-199	Psychology of Human Relations (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>31</b>	<b>18 cr.</b>	
<b>Third Term</b>				
601-112	Principles of Air Handling (T, L)	6	4	601-110, 601-161
601-165	CAD-HVAC (L)	6	3	601-114 or concurrent
601-143	Advanced HVAC Controls (T, L)	4	3	601-141, 601-142
806-143	College Physics 1	4	3	(804-113, 804-114) or 804-115
809-195	Economics (T)	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>23</b>	<b>16 cr.</b>	
<b>Fourth Term</b>				
601-113	HVAC Systems Design (L)	6	3	601-112, 601-161; Co-requisite: 601-117
601-117	Drafting HVAC (L)	4	2	601-165 (or 606-165); Co-requisite: 601-113
601-118	Sustainability for HVAC (L)	4	2	
601-151	Technical Problems-HVAC (L)	6	3	Program student; 601-110, 601-111, 601-116, 601-141
801-197	Technical Reporting (T)	3	3	801-195 with a minimum grade of C
809-197	Contemporary American Society (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>26</b>	<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 69**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

# Alcohol & Other Drug Abuse

Associate Degree  
Two Years

Offered in Eau Claire • August entry date

10-550-1

## Description

If your healthy lifestyle includes low-risk choices regarding substance use, the ability to work independently and within a team, and a desire to use your written and oral communication skills to help others, the Alcohol & Other Drug Abuse program could be the career training for you.

AODA associates are held to high ethical standards to inspire respect, trust, and confidence. Your conduct must never compromise your ability to fulfill your professional responsibilities. To succeed, your skills and character must include

- emotional stability, maturity, self-awareness, self-discipline, and personal responsibility.
- a minimum of six months free of substance use-related problems.
- an interest in working with people and appreciation of cultural diversity.
- strong reading, writing, and abstract thinking skills.

This program offers you opportunities to learn skills you'll use every day in your career:

- Clinically evaluate for substance use disorders and treatment needs
- Facilitate referral to meet needs
- Demonstrate case management skills
- Demonstrate counseling skills with individuals, groups, and families
- Provide culturally relevant education related to substance use
- Document and maintain clinical records per agency, federal and state guidelines
- Adhere to accepted ethical and behavior conduct

Program graduates are licensed in Wisconsin as Substance Abuse Counselors-In Training, qualifying for entry-level employment in a rewarding career.

## Admission Requirements

- COMPASS® pre-entry assessment  
80 on Reading  
60 on Writing
- Wisconsin criminal background check (requires a processing fee).  
Note: A record of specified criminal offenses may bar or restrict an individual from coursework involving a clinical/practicum experience and/or future employment in this occupation.
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the AODA program. The Admissions Office will notify you at the appropriate time.

## Helpful Background

- Strong reading comprehension and writing skills
- Strong social and behavioral sciences
- Critical thinking and problem-solving skills
- Computer literacy

If you begin this program, you must abide by the substance abuse counselor code book, Chapters RL 164, established by the Wisconsin Department of Regulation and Licensing. Understanding the code is

very important; if you violate the code, you will be dismissed from the program. You can find a copy of the code at the Department of Regulation and Licensing.

## Career Opportunities

- AODA Counselor
- Substance Abuse Counselor
- Chemical Dependency Counselor

## Program Tips

### Demanding Course Work

The AODA program is academically rigorous. For full-time students, second and third semester AODA courses are demanding. Consider taking the general studies courses (800 numbered courses) during summer school or before entry into program courses.

### “C” or Better Grades

A grade of “C” or better (not C-) is required in all courses.

### Course Sequence

Most program courses are designed to be taken in consecutive semesters for optimum learning and to ensure the student can successfully complete the program in a timely manner. Students who interrupt their individual academic plan will experience delays in completing their program. It is strongly recommended that students meet with an advisor to design an individual academic plan to facilitate program success.

### Criminal Background Check

A current criminal background check must be on file prior to starting the program and before starting internships.

Note: A record of specified criminal offenses may bar or restrict an individual from

- course work involving a clinical/practicum/internship experience.
- licensure and future employment in this occupation.

Students declined for a clinical placement based on criminal background may not be able to finish the clinical courses and hence would not be able to graduate. For any questions about your criminal background, contact a CVTC counselor as soon as possible to have the background evaluated.

### Internship Sites

Locally located internship sites cannot be guaranteed. Students may have to move or drive a distance in order to complete internship courses. Scheduled internship attendance days and times for which students must be available vary by agency. Program faculty select, assign, and maintain College contracts with internship sites.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
550-108	Substance Use: Risk & Reality	3	3	Fall only
550-113	Introduction to the Prevention and Treatment Profession (T)	3	3	Program student, Fall only
550-114	Ethics and Public Policy (T)	3	3	Program student, Fall only
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication (T)	3	3	
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs/Week and Total Credits</b>			<b>18 cr.</b>	
<b>Second Term</b>				
550-102	AODA Counseling/Interviewing (T, L)	4	3	Spring only, 550-108, 550-113, 550-114, 801-196( or 801-198 or 810-201), 809-198 (or 809-251)
550-110	Theories and Methods of AODA Treatment (T, L)	4	3	Spring only, 550-108, 550-113, 550-114, 801-195 (or 801-219), 809-198 (or 809-251)
550-154	Culturally Skilled Counseling (T)	3	3	Spring only, 550-108, 550-113, 550-114, 809-198 (or 809-251), (550-102, 550-110 or concurrent)
550-161	AODA and Corrections (T)	3	3	Spring only, 550-108, 550-113, 550-114, 801-196 (or 801-198 or 810-201), 809-198 (or 809-251)
801-197	Technical Reporting (T)	3	3	801-195 with a minimum grade of "C"
809-188	Developmental Psychology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs/Week and Total Credits</b>			<b>18 cr.</b>	
<b>Third Term (Summer)</b>				
806-177	General Anatomy and Physiology	10	4	High School Chemistry with a "C" or better. (See Prepared Learner Guide)
<b>Total Semester Hrs/Week and Total Credits</b>			<b>4 cr.</b>	
<b>Fourth Term</b>				
550-104	Internship I (C)	8	2	Fall only, 550-102, 550-110, 550-154, 550-161, 806-177 or concurrent, 809-188 (550-111 or concurrent)
550-111	Group Facilitation (T, L)	3	2	Fall only, 550-102, 550-110, 550-154, 809-188
550-115	AODA Assessment and Treatment Planning (T, L)	4	3	Fall only, 550-102, 550-110, 550-154, 801-197, (806-177, 550-121, 550-160 or concurrent)
550-121	Information Mgmt. for Prev. and Treatment (T, L)	3	2	Fall only, 550-102, 550-110, 801-197
550-122	Pharmacology-Substance Abuse (T)	3	3	Fall only, 550-102, 550-110, 806-177 or concurrent
550-160	Psychiatric Disease and AODA (T)	3	3	Fall only, 550-102, 550-110, 550-154, 550-161, 809-188, 806-177 or concurrent
809-196	Introduction to Sociology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs/Week and Total Credits</b>			<b>18 cr.</b>	
<b>Fifth Term</b>				
550-106	Internship, Advanced I, (C) ( <i>weeks 1-8</i> )	24	3	Spring only, 550-104, 550-111, 550-115, 550-121, 550-122, 550-160, 809-196 (or 809-271), [550-120 or concurrent], Co-requisites: 550-107, 550-150
550-107	Internship, Advanced II, (C) ( <i>weeks 9-16</i> )	24	3	Spring only, Co-requisites: 550-106, 550-150
550-120	Family and Community Systems, (T, L)	4	3	Spring only, 550-102, 550-110, 550-111, 809-196 (or 809-271)
550-150	Issues-Internship II Seminar, (T) ( <i>48 hours</i> )		3	Spring only, Co-requisites: 550-106, 550-107
<b>Total Semester Hrs/Week and Total Credits</b>			<b>12 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you've ever wanted to know how to turn a damaged vehicle into something that looks like new, this could be the program you're looking for. Through classroom instruction and work on customers' vehicles, you'll learn the skills you'll need for this career area:

- Estimating
- Non-structural repair
- Plastic repair
- Weld-on panel replacements
- Vehicle refinishing
- Frame and structural repair
- Paint technology
- Mechanical systems repair

In all course activities, you'll find an emphasis on safety. The latest, most advanced equipment and repair techniques are used. Your classes will incorporate I-CAR curriculum, and you may be I-CAR certified when you successfully complete the program.

Employment opportunities are best for people with formal training in automotive body repair and refinishing. The number of vehicles on the road is increasing, leading to a need for people to repair damaged vehicles. This program could be the training you need to prepare for a rewarding career!

This program is certified by the National Institute for Automotive Services Excellence in the areas of painting and refinishing, non-structural analysis and damage repair, and structural analysis and damage repair.

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school graduate or equivalent
- Math
- Industrial education courses

## Career Opportunities

- Auto Collision Technician
- Refinishing Technician
- Frame and Alignment Technician
- Trim and Glass Installer
- Collision Estimator
- Autobody Technician
- Auto Glass Technician
- Detail Technician

## Program Tips

### Summer Session

This program operates on a year-round basis; therefore, summer session attendance is required in addition to regular school year attendance. If you interrupt your program in any semester, you will be required to reapply to the program and be admitted on a space-available basis. In addition, this may delay program completion.

### Tool Set Purchase

You will be required to purchase an approved tool set prior to the start of the program that costs approximately \$2,000 from a college-approved vendor. These tools will be used throughout the program.

### Labs

This program does not include open lab. Instead, the lab operates on a set schedule.

### Class Tips

405-301 Introduction to Auto Collision

This course runs the week before the start of the first semester and is required for all students.

### 405-381 Auto Collision Mechanical

This course is offered only during the summer session and is required for graduation.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
405-301	Introduction to Auto Collision [ <i>1 week prior to first Term</i> ]		1	
405-355	Auto Body Basics	20	5	1 <sup>st</sup> 8 weeks, Program student, 405-382, 442-315A or concurrent
405-356	Nonstructural Repair	20	5	2 <sup>nd</sup> 8 weeks, Program student, 405-355 or concurrent
405-382	Paint Technology	3	2	Program student
404-337	Automotive Electricity 1	4	2	Program student
442-315A	Welding for Auto Collision	4	2	Program or pre-program student
<b>Total Term Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Second Term</b>				
405-357	Refinishing	20	5	1 <sup>st</sup> 8 weeks, 405-356
405-358	Structural Repair	20	5	2 <sup>nd</sup> 8 weeks, 405-357 or concurrent
405-375	Estimating and Structural Repair	3	2	Program student, 405-356, 405-382 or instructor approval
801-351	Applied Communication	3	2	
804-360C	Math for Technical Trades – Auto and Small Engines	3	2	Program or pre-program student
<b>Total Term Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Third Term (Summer)</b>				
405-352	Advanced Collision Repair [ <i>8 weeks</i> ]	20	5	Program student, 405-358 or concurrent
405-381	Auto Collision Mechanical [ <i>8 weeks</i> ]	4	1	<b>Offered summer only</b> , Program student
<b>Total Term Hrs./Week and Total Credits</b>			<b>6 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 39

2.0 MINIMUM PROGRAM CUMULATIVE GPA REQUIRED FOR GRADUATION

If a student does not enroll in any courses at CVTC for two or more consecutive Terms, the student will be required to reapply with Admissions. Students must abide by any changes in admission requirements and degree requirements.

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

31-404-3

## Description

If you enjoy working on vehicles and want an educational program you can complete in just one year, consider the Automotive Maintenance Technician program.

This program can help you gain the entry-level skills you need for a career servicing and repairing vehicles. You'll receive training in the Automotive Service Excellence (ASE) areas identified as automotive industry standards:

- Suspension and Steering
- Brakes
- Electrical/Electronic Systems
- Engine Performance

If you complete this program and decide you would like more training, you could apply what you've learned and enter CVTC's two-year Automotive Technician program with advanced standing.

This is a time of change and challenge in the automotive industry, with demand for vehicles that deliver better mileage, higher safety ratings, and increased performance and style. The industry needs trained technicians. Most employers consider completing a vocational training program as the best preparation for entry-level jobs. CVTC's program is a combination of classroom instruction and hands-on practice to give you the background you need to succeed.

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Good reading skills
- Effective communication skills
- Basic math and science
- Ability to follow written and verbal instructions

## Career Opportunities

- Auto Service Technician
- Automotive Technician
- Automotive Parts Salesperson
- Service Writer
- Service Consultant/Advisor
- Mobile Air Conditioning Technician
- Mechanic

## Program Tips

### ASE Exams

Upon completion of this program, students may write the ASE (Automotive Service Excellence) exams. The ASE credential enhances students' employability. See instructor for test dates, registration information, and fees charged by ASE. More information about ASE can be found at [www.asecert.org](http://www.asecert.org).

### Tool Set Purchase

You will be required to purchase an approved tool set from a college-approved vendor prior to starting the program. The required investment in tools may range from \$2,400 to \$3,800. These tools will be used throughout the program.

### Labs

This program does not include an open lab; instead, the lab operates on a set schedule.

### Driver's License Reminder

A valid driver's license is not a requirement for entry into the program. However, in order to test drive customer and school-owned vehicles, you must have a valid driver's license. Due to insurance reasons, it is imperative that you inform your instructor as soon as possible if your driver's license becomes revoked or suspended over the course of the school year. You must also inform your instructor if you have any restrictions on your license.

### AM or PM Section Choice

The Automotive Maintenance Technician program will now be offering an AM or PM program opportunity. You will have the choice of which time-frame you would like to have classes scheduled based on availability.

- AM section usually has classes scheduled from 7 a.m. - 3 p.m.
- PM section usually has classes scheduled from 1 p.m. - 9 p.m.



# Program Requirements

Course Number	Course Title	Credits	Prerequisite(s)/Comments
<b>First Term</b>			
404-335	Automotive Fundamentals <i>[2 weeks prior to start of semester-32 hrs.]</i>	1	Fall only; Program student
404-336	Basic Vehicle Maintenance	3	404-335 or concurrent, Co-requisite: 404-337, 404-338
404-337	Automotive Electricity 1	2	404-335 or concurrent, Co-requisite: 404-336, 404-338
404-338	Automotive Electricity 2	3	404-335 or concurrent, Co-requisite: 404-336, 404-337
404-339	Automotive Brake Systems	4	404-335 or concurrent,
442-313	Welding - Automotive Technician	1	Program & pre-program students
804-360C	Math for Technical Trades – Auto & Small Engines	2	Program & pre-program students
<b>Total Semester Hrs./Week and Total Credits</b>		<b>16 cr.</b>	
<b>Second Term</b>			
404-350	Automotive Steering & Suspension Systems	4	404-335 or concurrent
404-351	Automotive Engine Performance 1	2	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-352, 404-355
404-352	Automotive Engine Performance 2	3	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-351, 404-355
404-355	Automotive Engine Performance 3	3	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-351, 404-352
801-351	Applied Communication	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>14 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 30**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you enjoy working on vehicles, the Automotive Technician program could provide the training you're looking for. You'll gain a theoretical understanding of and practice in all aspects of vehicle maintenance and repair. Much of your training will take place in CVTC's automotive lab, where you will learn while working on customers' cars. The lab provides experience that is very similar to what you will encounter every day on the job as a professional automotive technician.

Training will be offered in all eight areas of the Automotive Service Excellence (ASE) certification areas identified as automotive industry standards:

- Engine Repair
- Automatic Transmissions/Transaxles
- Manual Drive Train and Axles
- Suspension and Steering
- Brakes
- Electrical/Electronic Systems
- Heating and Air Conditioning
- Engine Performance

Skilled automotive technicians are always in demand. You can gain a competitive edge with training in specialized systems, such as electronics or working with hybrid vehicles. The Automotive Technician program could be the program you've been looking for!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Good reading skills
- Effective communication skills
- Basic math and science
- Ability to follow written and verbal instructions

## Career Opportunities

- Auto Service Technician
- Shop Foreman
- Service Consultant
- Mobile Air Conditioning Technician

## Program Tips

### ASE Exams

Upon completion of this program, students may write the ASE (Automotive Service Excellence) exams. The ASE credential enhances students' employability. See instructor for test dates, registration information, and fees charged by ASE. More information about ASE can be found at [www.asecert.org](http://www.asecert.org)

### Tool Set Purchase

You will be required to purchase an approved tool set from a college-approved vendor prior to starting the program. The required investment in tools may range from \$2,400 to \$3,800. These tools will be used throughout the program.

## Labs

This program does not include an open lab; instead, the lab operates on a set schedule.

### Driver's License Reminder

A valid driver's license is not a requirement for entry into the program. However, in order to test drive customer and school-owned vehicles, you must have a valid driver's license. Due to insurance reasons, it is imperative that you inform your instructor as soon as possible if your driver's license becomes revoked or suspended over the course of the school year. You must also inform your instructor if you have any restrictions on your license.

### AM or PM Section Choice

The Automotive Technician program will now be offering an AM or PM program opportunity for the first year of the program. You will have the choice of which time-frame you would like to have classes scheduled based on availability. The second year has one time-frame available.

#### 1st Year

- AM section usually has classes scheduled from 7 a.m. - 3 p.m.
- PM section usually has classes scheduled from 1 p.m. - 9 p.m.

#### 2nd Year

- One section usually scheduled from 10 a.m. - 4 p.m.

# Program Requirements

Course Number	Course Title	Credits	Prerequisite(s)/Comments
<b>First Term</b>			
404-335	Automotive Fundamentals <i>[2 weeks prior to start of semester-32 hrs.]</i>	1	Fall only; Program student
404-336	Basic Vehicle Maintenance	3	404-335 or concurrent, Co-requisite: 404-337, 404-338
404-337	Automotive Electricity 1	2	404-335 or concurrent, Co-requisite: 404-336, 404-338
404-338	Automotive Electricity 2	3	404-335 or concurrent, Co-requisite: 404-336, 404-337
404-339	Automotive Brake Systems	4	404-335 or concurrent
442-313	Welding - Automotive Technician	1	Program & pre-program students
804-360C	Math for Technical Trades – Auto & Small Engines	2	Program & pre-program students
<b>Total Semester Hrs./Week and Total Credits</b>		<b>16 cr.</b>	
<b>Second Term</b>			
404-350	Automotive Steering & Suspension Systems	4	404-335 or concurrent
404-351	Automotive Engine Performance 1	2	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-352, 404-355
404-352	Automotive Engine Performance 2	3	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-351, 404-355
404-355	Automotive Engine Performance 3	3	404-336, 404-337, 404-338, 404-339, Co-requisite: 404-351, 404-352
801-351	Applied Communication	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>14 cr.</b>	
<b>Third Term</b>			
<i>*Grade of "C" or better for all prerequisites</i>			
404-356	Automotive HVAC Systems	3	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-360, 404-361, 404-362
404-360	Automotive Axles & Drive Trains	2	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-361, 404-362
404-361	Manual Transmission & Transaxles	3	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-360, 404-362
404-362	Automatic Transmission & Transaxles	4	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-360, 404-361
809-351	Occupational Relations	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>14 cr.</b>	
<b>Fourth Term</b>			
404-357	Auto Safety & Security Systems	2	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-363, 404-370, 404-371
404-363	Engine Repair	4	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-370, 404-371
404-370	Advanced Automotive Chassis Systems	3	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-363, 404-371
404-371	Advanced Engine Performance & Alternative Fuels	3	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-363, 404-370
<b>Total Semester Hrs./Week and Total Credits</b>		<b>12 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 56

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

*Offered in Eau Claire and River Falls*

*August and January entry dates in Eau Claire and August entry date in River Falls*

**10-102-3**

## Description

If you're interested in business, enjoy leadership roles, like being in charge, and are seeking a broad business background, the Business Management program could be a good match for you.

The program is designed to enhance your ability to make sound business decisions. You'll learn how to effectively plan, organize, direct, and evaluate business functions essential to efficient and productive business organizations.

Look around you: business leaders are found in nearly all work settings in virtually every sector of the economy. Business management salaries vary by company and position. Most graduates begin in entry-level positions and advance through the ranks of the organization. Some graduates have developed their own successful businesses.

To maximize your educational time and effort, CVTC has an agreement with Lakeland College that allows you to attend both institutions and work toward your Associate Degree and Bachelor's Degree in Business Management at the same time. You'll find more information at [www.cvtc.edu](http://www.cvtc.edu).

So what are you waiting for?

The Business Management program can help you develop a broad range of skills that you can use to launch your professional career. This could be the program for you!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school business classes
- Computer literacy
- Economics
- Mathematics
- Speech
- Presentation skills
- Writing skills

## Career Opportunities

- Assistant Manager
- Training Manager
- Operations Manager
- Customer Relations Specialist
- Administrative Director
- General Manager
- Managing Director
- Front Line Supervisor
- Team Leader

## Program Tips

### Multi-Program Choices

When you applied to CVTC, you chose to pursue a degree in the business management field. Because there is a common set of core classes in the first and second semesters of the Business Management, Human Resources, and Marketing Management programs, students registered in these programs can more easily complete more than one program, graduating with multiple majors. You can also more easily change your program if you find that Human Resources or Marketing Management is a better fit for you. If you are interested in changing or adding a program, please make an appointment with your business program academic advisor.

### Business Management Internship

The business management internship is the culminating experience in your Business Management program. You will perform management-type activities on a job site for 80 hours during the last several weeks of your final semester.

### Distance Learning

Some core business management courses may be available online, in hybrid format, and evenings. All the general studies courses (800-level) are available online. Check the course offerings listing for more information.

### Certificates

If you intend to complete only a certificate and not the associate degree, contact the Registration Office to apply for certificate status or go to CVTC's website and complete the Certificate Program Identification form. If you are enrolled in an associate degree program, you do not need to apply for the certificate.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
116-193	Introduction to Human Resources	3	3	
102-131	Introduction to Business	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17</b>	<b>cr. 17</b>	
<b>Second Term</b>				
101-105	Intro to Accounting <b>OR</b>	3	3	
101-111	Accounting 1	5	4	
102-112	Principles of Management	3	3	
102-113	Business Ethics	3	3	
104-104	Professional Selling	3	3	
801-196	Oral/Interpersonal Communication	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 15-17</b>	<b>cr. 15-16</b>	
<b>Third Term</b>				
101-184	Business, Finance and Budgeting	3	3	101-111 or 101-105 with grade of "C" or better
102-116	Management Decision Making	3	3	102-112, 103-102
102-109	Software Skills for Business Managers	2	2	103-102
102-188	Project Management	3	3	
801-197	Technical Reporting <b>OR</b>	3	3	801-195 with a "C" or better
801-171	Business English			(See Prepared Learner Guide)
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17</b>	<b>cr. 17</b>	
<b>Fourth Term</b>				
102-114	Managing Operations	3	3	101-184 with grade of "C" or better
102-150	International Business	3	3	
102-115	Business Management Internship		1	102-109, 102-111, 102-112, 102-113, 102-116, Co-requisite: 102-117
102-117	Planning Your Business Management Career	2	2	102-109, 102-111, 102-112, 102-113, 102-116, Co-requisite: 102-115
116-190	Leadership Development	3	3	
804-123	Math with Business Application <b>OR</b>	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17-18</b>	<b>cr. 18</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 67

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Central Service Technician program could be for you if you

- are interested in a career in the healthcare field.
- are seeking a short-term educational program.
- are able to work as part of a team.
- are well-organized, with an eye for detail.
- are able to work accurately.
- have a high degree of manual dexterity.

As a Central Service Technician, you would

- maintain an uninterrupted supply of instrumentation and supplies used in patient care.
- support patient care services and be especially involved in the prevention of infection.
- clean, sterilize and process patient products, including surgical instruments, power equipment, robotic instruments, fiber optic scopes, cameras, and other specialty instrumentation.
- maintain records associated with supply orders, charges, and inventory.

Your program will include central service technician skill courses, clinical assignments, and general education courses. Graduates receive a technical diploma and are eligible to write the certification exam offered by the International Association of Central Service Materials Management organization. After successfully completing your exam, you will be awarded the title of Certified Registered Central Service Technician. With an additional 200 hours working with instrumentation, you will be eligible to write the Instrument Specialist exam. Upon successful completion of this exam you will earn the title of Certified Instrument Specialist through IAHCSSMM.

Central Service is an emerging occupation and will expand as healthcare becomes more specialized. This could be the program you need for a rewarding career!

## Admission Requirements

- COMPASS pre-entry assessment
- Wisconsin criminal background check (requires a processing fee)
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Central Service Technician program. The Admissions Office will notify you at the appropriate time with a specified deadline.

## Helpful Background

- English (grammar, punctuation, spelling)
- Basic math
- Biology

## Career Opportunities

- Central Service Technician
- SPD Technician
- Surgical Supply Core Tech
- Anesthesia Aid
- Surgical Attendant
- Storeroom Clerk
- Dental Clinic Sterilization Technician

## Program Tips

If working towards the Surgical Technologist program, you should take 806-177 General Anatomy and Physiology instead of 509-302 Human Body in Health & Disease.

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses.

A copy of your physical exam form and criminal background check must be in your clinical file.

### Clinical Sites

Clinical sites used in this program include locations in Eau Claire, Chippewa Falls, Rice Lake, and Menomonie. An eight week clinical assignment will follow successful completion of 534-300. This will begin approximately mid-May and continue through July.

### Certification

Upon completion of clinical hour requirements, the students completing this certificate may take the International Association for Healthcare Materials Management's "Central Service Technician" certification exam. Information regarding certification can be found at <http://iahcssmm.org>. The certification test is scheduled through this organization and the link to apply for the exam is [http://iahcssmm.org/pdfs/downloads/CRCST\\_US-Canada.pdf](http://iahcssmm.org/pdfs/downloads/CRCST_US-Canada.pdf). The primary objective of the certification program is to promote the education of healthcare sterile processing and distribution personnel through certification to ensure safe and effective levels of practice to protect the public.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b>First Term</b>			
103-102	Microsoft Office Suite	3	2	
534-300	Fundamentals of Central Service Technician (T,L)	6	3	Program student; Corequisite 534-302
534-302	Central Service Technician Clinical (C) <i>[8 weeks following semester]</i>	24	1	Program student. 501-101, 103-102, 806-301 or concurrent; Corequisite 534-300
501-101	Medical Terminology (T)	3	3	
509-302	Human Body in Health & Disease (T) <b>OR</b>	6	3	Program or pre-program student; 501-101(with a minimum grade of "C" or better) or concurrent
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better (See Prepared Learner Guide)
806-301	Basic Microbiology (T, L)	4	2	Spring only
	<b>Total Semester Hrs./Week and Total Credits</b>	<b>34-36</b>	<b>14-15 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED =14

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

Do you want to make a difference in the lives of children? If that's your goal, the Child Care Services program may be a good match for you.

As a graduate of this program, you'll care for children while their parents are at work or unavailable for other reasons. You'll attend to the children's health, safety, and nutrition, and have a role in their physical, emotional, intellectual, and social growth.

The Child Care Services program offers a strong framework of child development, nutrition, creative activities, and practical experience with young children in area child care facilities. As a final project, you'll help produce a puppet show enjoyed by hundreds of children.

You may enroll in this program full- or part-time. If you have related work experience, you could qualify for advanced standing. If you decide to continue your education, the credits you earn in this program apply toward the two-year Early Childhood Education associate degree program, and selected credits transfer to some universities.

The ever-expanding field of child care demands higher standards and a larger, better-trained work force to meet the needs of families. Career opportunities vary. You could serve as the lead teacher in a group center, provide family child care in a home setting, oversee child care on cruise ships, or work as a nanny. Many child care providers operate their own successful businesses. You have options!

## Admission Requirements

- COMPASS® pre-entry assessment
- Wisconsin criminal background check (requires a processing fee)
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Child Care Services program. The Admissions Office will notify you at the appropriate time with a specified deadline.

## Helpful Background

- Strong written and oral communication and reading comprehension skills
- Child care courses
- Psychology
- Sociology
- Family and consumer education courses

## Career Opportunities

- Child Care Teacher/Preschool Teacher
- Assistant Child Care Teacher
- Family Child Care Provider
- Nanny
- Before- and After-School Care Provider
- Recreational Program Leader
- Cruise Ship Child Care
- Infant/Toddler Specialist

## Program Tips

### Employment Requirement

A current CPR certificate is required for employment in a day care setting. CVTC offers a First Aid-CPR course, 531-350, 1 credit, or you can contact local agencies (American Heart Association, First Aid) or local hospitals/clinics to register for their CPR courses.

### Physical Requirements

A physical (including a TB test) must be completed prior to placement at observation or practicum sites. The physical must be conducted at the UW Health Eau Claire Family Medicine Clinic, 617 West Clairemont Avenue, Eau Claire. For appointments, please call: (715) 839-5175.

### Annual Criminal Record Check

A criminal record check must be completed prior to placement at observation or practicum sites. The Wisconsin State Department of Health and Social Services (Office of Regulation and Licensing) states:

If a person subject to a criminal record check is determined to have been convicted of or have a pending criminal charge substantially related to the care of children or the operation of the center, that person may not be licensed or allowed on the premises of the day care center or day camp and will not be able to take the clinical courses in the Child Care program.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
307-148	ECE: Foundations of Early Childhood Education (T)	3	3	Fall only; Program student _____
307-151	ECE: Infant and Toddler Development(T)	3	3	Fall only; Program student _____
307-166	ECE: Curriculum Planning (T, L)	4	3	Fall only; Program student _____
307-167	ECE: Health, Safety, and Nutrition (T, L)	4	3	Fall only; Program student _____
307-174	ECE: Practicum 1	9	3	Fall only; Program student, 307-148 or concurrent _____
801-195	Written Communication (T) <b>OR</b>	3	3	(Prepared Learner Guide) _____
801-351	Applied Communication (T)	3	2	_____
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17-18 cr.</b>	
<b>Second Term</b>				
307-178	ECE: Art, Music, and Language Arts (T, L)	4	3	Spring only; Program student _____
307-179	ECE: Child Development (T)	3	3	Spring only; Program student _____
307-188	ECE: Guiding Children's Behavior (T)	3	3	Spring only; Program student _____
307-192	ECE: Practicum 2	9	3	Spring only; Program student, 307-174 _____
809-198	Introduction to Psychology (T) <b>OR</b>	3	3	(Prepared Learner Guide) _____
809-351	Occupational Relations (T)	3	2	_____
<b>Total Semester Hrs./Week and Total Credits</b>			<b>14-15 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 31**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you enjoy working with computer applications and have an interest in construction, consider the Civil Engineering Technician-Structural program.

As a graduate, you would be part of the team that completes the complex plans needed before construction of major buildings. Your responsibilities could cover a wide range:

- Design and prepare site plans for residential and commercial buildings
- Design and prepare construction documents (architectural and structural) for wood frame, masonry, concrete, and steel frame buildings
- Design and prepare presentation drawings for proposed buildings and present ideas
- Prepare plans, schedules, and details using AutoCAD, and Revit software systems
- Prepare structural steel shop drawings and erection plans for commercial buildings
- Select and prepare the required design calculations for concrete and steel beams and columns, footings, floor slabs, and open web steel joists

Your training will help you understand technical data and the proper use of construction materials:

- Architectural drafting
- Structural drafting
- Surveying
- Structural analysis
- Construction in concrete/steel
- Estimating

Traditionally, graduates find employment in engineering offices. The program emphasizes the development of computer-aided drafting skills, providing you with the skills you need to succeed in today's highly competitive job market.

This could be the career area you're looking for!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
  - 35 on Algebra
- Two years of college prep math or equivalent with passing grade of "C" or better or assessment

## Helpful Background

- Strong mathematics skills, including algebra and geometry
- Drafting and CAD
- Keyboarding
- Construction experience
- Basic computer knowledge

## Career Opportunities

- Structural Drafter (Design): Performs design and drafting of structural systems in an architectural or engineering firm.
- Structural Drafter (Detailer): Performs design and drafting of structural beams, columns, etc., for structural fabrication.
- CAD Operator: Performs computer drafting for all disciplines in the construction industry.
- Architectural Drafter: Performs architectural preliminary and working drawings in an architectural firm.
- Civil Technician (Surveying): Performs field and office duties typical for surveying and engineering drawings in a surveyor's firm.

## Program Tips

### Before Entry into the Program

- **Algebra Skills:** A minimum score of 45 on the COMPASS assessment pre-algebra section, 35 on the Algebra section and two years of college prep math at the high school level. All math courses require a grade of C or better.
- **Reading Skills:** A minimum score of 80 on the COMPASS reading assessment.
- **Drafting Skills:** If you have no background in drafting, we recommend an AutoCAD course.
- **Required Information Session:** Students must attend a Required Information Session.

### Part-time Students

Note that software and other technical changes are to be expected. Part-time students may be required to repeat/update coursework that does not meet current program requirements. Check with the academic advisor for sequencing and availability of courses.

# Program Requirements

## CIVIL ENGINEERING TECHNICIAN-STRUCTURAL

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
607-164	CAD Civil	5	3	Fall only, Program student
607-100	Drafting Fundamentals/Wood Frame Const.	6	3	Fall only, Program student
607-125	Mechanical Systems	4	3	Fall only, Program student, 607-100 and 607-164 or concurrent
607-140	Structural Analysis	5	4	Fall only, Program student
804-115	College Technical Mathematics 1	5	5	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>25</b>	<b>18 cr.</b>	
<b>Second Term</b>				
607-111	Architectural Drafting I	5	3	Spring only, 607-100, 607-140, 607-125 and (606-161 or 606-161C or 607-164); Co-requisite: 607-117
607-117	Revit Architecture	5	3	Spring only, 607-100 and (606-161 or 607-164 or 606-161C), Co-requisite: 607-111
607-123	Construction Steel	5	3	Spring only, 607-100, 607-140 and (606-161 or 606-161C or 607-164), 607-125
607-124	Construction Concrete	4	2	Spring only, 607-100, and (606-161 or 606-161C or 607-164)
801-136	English Composition 1 <b>OR</b>	3	3	(See Prepared Learner Guide)
801-195	Written Communication			(See Prepared Learner Guide)
804-116	College Technical Mathematics 2	4	4	804-115 or (804-113 and 804-114)
<b>Total Term Hrs./Week and Total Credits</b>		<b>26</b>	<b>18 cr.</b>	
<b>Third Term</b>				
607-113	Architectural Drafting II	5	3	Fall only, 607-111, 607-123, 607-140, 607-124
607-148	Structural Drafting I	6	4	Fall only, 607-111, 607-123, 607-124, 804-116
607-152	Construction Methods	4	2	Fall only, 607-140, 607-111, 607-124
607-155	Surveying and Site Planning	6	4	Fall only, 607-111, 804-116
806-154	General Physics 1	5	4	804-114 or 804-115
<b>Total Term Hrs./Week and Total Credits</b>		<b>26</b>	<b>17 cr.</b>	
<b>Fourth Term</b>				
607-149	Structural Drafting II	4	2	Spring only, 607-148
607-151	Technical Problems-Civil Structural	7	3	Spring only, 607-113, 607-148, 607-152, 607-155
607-160	Model Based Steel Detailing	5	3	Spring only, 607-140, 607-148
801-197	Technical Reporting	3	3	801-195 with a minimum grade of C
809-195	Economics ( <i>See Tips for other options</i> )	3	3	
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>		<b>25</b>	<b>17 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • January and August entry date

31-502-1

## Description

If you have a strong interest in personal appearance, have artistic flair, enjoy working with people, and are seeking a career with many excellent employment opportunities, consider the Cosmetology program.

CVTC has recently created a state-of-the-art cosmetology lab. You'll gain hands-on experience in a setting as close as possible to the work environment you'll find in this career area.

You will gain a complete understanding of salon operations, from marketing and retailing to hygiene and communication skills. The program includes classroom and hands-on instruction to develop the skills you need:

- Basic and specialty haircutting
- Ethnic hair care
- Manicure, pedicure, and nail enhancements
- Facials, makeup artistry, and color analysis
- Hair designing and styling
- Salon sciences
- Salon operations and management
- Retail sales/marketing
- Wisconsin barber-cosmetology laws
- Bacteriology and sanitation
- Perming and coloring
- Hair, skin, and scalp conditioning
- Professionalism and ethics

The possibilities for employment related to this career are excellent, with good earning potential. More than 40 percent of all the people in this profession are self-employed, and many more work flexible schedules. With a career in the cosmetology field, you have options!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Design and fashion
- Ability to work well in a team environment
- Enjoy working with a variety of people
- Flexible work habits
- Familiarity with product sales
- Communication skills
- Artistic ability

## Career Opportunities

- Stylist (Barber-Cosmetology)
- Salon Owner
- Makeup Artist
- Manufacturer's Representative
- Nail Technician
- Trainer/Educator

## Program Tips

### Attendance Requirement

To apply for the state licensing exam at the end of this program, a student must have completed 1,800 hours of instruction and graduated from the program. Salon services hours will be scheduled to accommodate evening and Saturday hours. More detailed attendance requirements will be explained during the first week of classes.

If you miss one or more eight-week sessions of the program, you are not guaranteed a place in the program. For the best chance of success in this program, you should complete the entire 48 weeks of instruction without interruption.

### Additional Program Costs Required For First Day of Class

You can expect to pay, approximately, the following additional costs:

Salon Kits	\$1000.00
Lab Coat	30.00
Books	550.00
Total	\$1580.00

These items can be purchased at the CVTC bookstore.

### State Exam Eligibility

When you graduate from this program, you will receive a diploma from Chippewa Valley Technical College which entitles you to apply for the State Board Cosmetology Exam. You must be 18 years of age or older to be allowed to take the state exam.

### Registration Requirements

A Cosmetology 30 minute Orientation Session will be conducted and is required during the Orientation/Advisement/Registration time before the start of the program. During the registration period, students must register for ALL semester courses. This will:

- assure that you have a place in each class.
- ensure maximum financial aid benefits.

### Physical Requirements

This career area requires you to have the stamina to stand for long periods of time to perform services on customers/clients.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b> (August-December)				<b>Grade of "C" or better for all prerequisites</b>
502-301	Haircutting 1 (1 <sup>st</sup> 8 weeks)	8	2	Program student; Corequisite: 502-310
502-310	Chemical Services 1 (1 <sup>st</sup> 8 weeks)	12	3	Program student; Corequisite: 502-301
502-320	Nail Technology (1 <sup>st</sup> 8 weeks)	8	2	Program student
806-321	Salon Science	4	2	Program student
502-304	Haircutting 2 (2 <sup>nd</sup> 8 weeks)	12	3	Program student; 502-301 or concurrent; Corequisite: 502-321
502-321	Salon Services I (2 <sup>nd</sup> 8 weeks)	16	4	Program student; 502-301, 502-320, 806-321 or concurrent; Corequisite: 502-304
809-351	Occupational Relations	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>35</b>	<b>18 cr.</b>	
<b>Second Term</b> (January-May)				<b>Grade of "C" or better for all prerequisites</b>
104-301	Salon Marketing (1 <sup>st</sup> 8 weeks)	8	2	502-314, 502-322 or concurrent
502-314	Chemical Services 2 (1 <sup>st</sup> 8 weeks)	12	3	502-310; Corequisite: 502-322
502-322	Salon Services 2 (1 <sup>st</sup> 8 weeks)	16	4	502-304, 502-321 or concurrent; Corequisite: 502-314
502-330	Facial Services (2 <sup>nd</sup> 8 weeks)	8	2	502-311 or concurrent; Corequisite: 502-323
502-311	Hair Styling (2 <sup>nd</sup> 8 weeks)	8	2	502-314, 502-322 or concurrent
502-323	Salon Services 3 (2 <sup>nd</sup> 8 weeks)	16	4	104-301, 502-311, 502-314, 502-322 or concurrent; Corequisite: 502-330
<b>Total Semester Hrs./Week and Total Credits</b>		<b>34</b>	<b>17 cr.</b>	
<b>Third Term</b> (June-October)				<b>Grade of "C" or better for all prerequisites</b>
502-305	Haircutting 3 (1 <sup>st</sup> 8 weeks)	12	3	502-304; Corequisite: 502-324, 102-302
502-324	Salon Services 4 (1 <sup>st</sup> 8 weeks)	16	4	502-323; Corequisite: 502-305, 102-302
102-302	Salon Business Operations (1 <sup>st</sup> 8 weeks)	8	2	Corequisite: 502-305, 502-324
502-325	Salon Services 5 (2 <sup>nd</sup> 8 weeks)	16	4	502-324, 502-305 or concurrent; Corequisite: 502-371
502-371	Advanced Salon Operations (2 <sup>nd</sup> 8 weeks)	12	3	<b>*Students registering for the final 8 week courses must have completed all previous courses with a "C" or better.</b> Corequisite: 502-325
801-351	Applied Communication (2 <sup>nd</sup> 8 weeks)	6	2	
		<b>34-36</b>	<b>18 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 53

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The criminal justice field is becoming increasingly complex and important. This career area needs people who have good skills and the following highly-developed personal strengths:

- View toward community service
- Motivated
- High ethical and moral standards
- Strong written and oral communication skills

The program provides the foundation for your career as a law enforcement officer at the municipal, county, or state level. Your career path could include serving as a correctional officer, working for a private investigation agency, or providing security for retail, commercial, or industrial establishments.

The program includes related general education courses and criminal justice courses. You will receive theoretical and practical information on various types of law, community policing, corrections, and criminal justice ethics. Other courses will strengthen your ability to interact with the public, work with people from diverse backgrounds, and communicate in a professional manner.

As you complete the coursework, you'll be working toward the 520 hours of training required for certification by the Wisconsin Department of Justice, Training and Standards Bureau. If you opt for the Law Enforcement Certification Track, you can add tactical training classes to your regular coursework in your second year in the program. A second option is to attend a summer Criminal Justice-Law Enforcement Academy at CVTC.

Opportunities for employment are good, and most employment areas offer good chances for advancement. This could be the training you need to begin a rewarding career in law enforcement.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
- Required Information Session (RIS)

## Helpful Background

- Strong written and oral communication skills
- Strong reading comprehension skills
- Strong social studies
- Mathematics

## Career Opportunities

- Corrections Officer
- Deputy Sheriff
- Police Officer
- Private Investigator
- Security Officer
- State Trooper
- Park and Forestry Personnel
- Telecommunicator
- Jail Officer

## Program Tips

### Criminal Background/Driving History

Prospective students must be aware that their criminal background/driving history will directly impact their employability in the law enforcement field. While most convictions or a poor driving record do not bar a person from a law enforcement certification, it may make it very difficult to obtain employment in the field. Types of convictions that would prohibit employment in the law enforcement field include any domestic violence criminal conviction and felony conviction. Juveniles who have been adjudicated delinquent of an act which would bar them from possessing a firearm as an adult cannot be certified as a law enforcement officer.

### Criminal Justice Law Enforcement Certification Tips (Eau Claire) What is Law Enforcement Certification?

Law enforcement certification provides training to meet minimum standards as established by the State of Wisconsin Department of Justice, Bureau of Training and Standards, and the Law Enforcement Standards Board to enter the law enforcement profession. Certification training is essentially the same training that Criminal Justice students receive while they are still in the program. Some students enter Certification training after they graduate from the associate degree program.

### What is the Law Enforcement Certification Track?

Students are invited to attend an informational meeting in February/March prior to entering the third semester where they receive a packet explaining admission to the Law Enforcement Certification Track. This track allows students to complete their tactical portion of Wisconsin Law Enforcement Certificate Training during their final two semesters in the associate degree program or during the summer Law Enforcement Academy (after program completion).

Qualifications for the Law Enforcement Certification Track:

- Successfully completed the first year of the Criminal Justice program with a "C" or better in all 504 courses.
- Attended at least 90 percent of class time in Criminal Justice classes in the first year of the program.
- Be selected through an interview process by the Law Enforcement Certification Committee for participation in the Law Enforcement Certification Track. Application to the Law Enforcement Certification Track is of a competitive nature, and students are not guaranteed a seat in that program.

### River Falls Students

River Falls students will commute to Eau Claire for 8 hours of skills training. These classes will meet 4 hours per day two different days per week. The classes will last two semesters.

### Additional Fees:

Equipment - \$600  
Scenario - \$600  
Uniform - \$100

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
504-900	Introduction to Criminal Justice	3	3	Fall only
504-902	Criminal Law	3	3	Fall only, Program student
504-907	Community Policing Strategies	3	3	Fall only
801-171	Business English	3	3	(See Prepared Learner Guide)
804-107	College Mathematics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Second Term</b>				
504-908	Traffic Theory	3	3	Spring only
504-904	Juvenile Law	3	3	Spring only, 504-902 or concurrent
504-170	Introduction to Corrections	3	3	Spring only
801-195	Written Communication	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Third Term</b>				
504-107	Law Enforcement Crisis Management	2	2	Fall only, Program student, 504-900, 504-907; Corequisite: 504-903, 504-905
504-905	Report Writing	3	3	Fall only, 504-902, 801-171, 801-195
504-903	Professional Communications	3	3	Fall only, 504-902
<b>Choose one of the three courses:</b>				
531-110	Basic Emergency Medical Technician <b>OR</b>	8	4	CPR Certification
504-103	Law Enforcement Employment Strategies <b>OR</b>	3	3	Program student
504-175	Law Enforcement Certification I	8	4	Fall only, Program student, 504-900, 504-908, 504-904, 504-907, 504-170
809-122	Introduction to American Government <b>OR</b>	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17-18cr.</b>	
<b>Fourth Term</b>				
504-901	Constitutional Law	3	3	Spring only, 504-902, 504-905
504-121	Patrol Procedures	4	4	Program student, 504-903, 504-907
504-906	Criminal Investigation Theory	3	3	Spring only, 504-902, 504-903
<b>Choose one of the three courses:</b>				
504-162	Contemporary Issues in Criminal Justice <b>OR</b>	3	3	Spring only
504-176	Law Enforcement Certification II <b>OR</b>	8	4	Spring only, Program student, 504-175
504-166	Criminal Justice Internship	16	3	Program student, 504-900, 504-908, 504-904, 504-907, 504-170
801-196	Oral/Interpersonal Communication	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16-17 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 66

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August and January entry dates

30-504-1

## Description

The Criminal Justice-Law Enforcement Academy is designed for potential law enforcement officers who need or want to meet Wisconsin certification requirements.

You may be considered for admission to the Academy if you

- Are a full-time or part-time law enforcement officer – or
- Have graduated from CVTC's Criminal Justice-Law Enforcement Associate Degree program – or
- Have earned at least 60 college credits or the equivalent.

The 520-hour training program is competency-based and meets the criteria set by the Wisconsin Department of Justice, Training and Standards Bureau. Training is delivered through lecture, multimedia presentations, interactive group discussion, hands-on instruction, and field exercises. All classes are conducted at CVTC's Criminal Justice Division in Eau Claire, Wisconsin.

Full-time students are expected to participate from 8 a.m. to 5 p.m. Monday through Friday and be available for scheduled evening and weekend instruction designed to simulate actual conditions. Some training will take place outdoors.

This is a challenging program designed to help you take your law enforcement career to the next level.

## Admission Requirements

- Proof of employment as a law-enforcement officer  
(or) Graduate of CVTC Criminal Justice-Law Enforcement Associate Degree program  
(or) Proof of at least 60 college credits or the equivalent
- 18 years of age or older
- Proof of U.S. citizenship (certified copy of the student's birth certificate must be presented for examination)
- High school diploma or GED
- Satisfactory interview by the Academy Advisory Committee
- Satisfactory Wisconsin criminal history record request (DJLE250) (submitted by student)
- Valid driver's license
- No felony or domestic related conviction
- you must submit the results of a physician's assessment (conducted at your expense within the previous six months).

For detailed requirements and information on obtaining an application packet, visit the website at [www.cvtc.edu](http://www.cvtc.edu) and review the program information.

## Career Opportunities

- Correctional Officer
- Deputy Sheriff
- DNR Warden
- Park Ranger
- Police Officer
- State Trooper

## Program Tips

At CVTC preparatory law enforcement officer training is offered full-time over thirteen weeks (520 hours) in length with start dates in January and August of each year. The program is conducted from 8 a.m. to 5 p.m., daily Monday through Friday although there may be occasional evening or weekend activities

### Cost

The cost is approximately \$3,700. Note: Applicants to this program do not qualify for financial aid because it is a short-term training program. You may be eligible for an alternative student loan direct from a lender. Information regarding alternative loans is available at the following link: [www.cvtc.edu/financialaid](http://www.cvtc.edu/financialaid).

# Program Requirements

Course Number	Course Title	Credits	Prerequisite(s)/Comments
<b>First Term</b>			
504-350	Police Academy Scenario Evaluation	1	Program student
504-351	Policing in America	1	Program student
304-352	The Legal Context	2	Program student
504-353	Tactical Skills	3	Program student
504-354	Relational Skills	3	Program student
504-355	Patrol Procedures	4	Program student
504-356	Investigations	2	Program student
<b>Total Hrs./Week and Total Credits</b>		<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 16

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

Self-directed, motivated, able to anticipate the needs of others, detail oriented, good dexterity, able to work as part of a team, interested in helping people: if that sounds like you, the Dental Assistant program could be what you're looking for.

This program is a combination of theory and hands-on experiences. You'll gain the knowledge and skills you'll need to

- assist the dentist in dental procedures.
- sterilize and prepare instruments.
- take impressions; prepare models and lab work.
- assist with general office procedures.
- expose and develop x-rays.
- maintain and update dental charts.

After two years' on-the-job experience, you will be eligible to apply for the certification examination of the Dental Assistant National Board.

Employment is expected to grow 29 percent through 2016, which is much faster than the average for all occupations. You have excellent career opportunities!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
- Wisconsin criminal background check (requires a processing fee)
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

## Helpful Background

Hepatitis B vaccination is highly recommended before enrolling in any program lab course.

This program is not eligible for financial aid consideration. However, students may be eligible for an alternative student loan.

## Career Opportunities

- Dental Assistant
- Dental Office Receptionist
- Dental Insurance Clerk

## Program Tips

### Criminal Background Check

This is a program requirement, but beyond that, there could be the possibility of being declined for program admission based on a criminal history. If a student is declined based on criminal background, they could be in a situation where they may not be able to finish the clinical courses, and hence may not be able to graduate.

If you have any significant problems with your criminal background, you need to contact a CVTC counselor as soon as possible to have the background evaluated.

### Health Requirements, Criminal Background Forms, and CPR

The following must be completed and approved before you enter the core courses:

The Admissions Office will mail specific physical and dental exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting. The program director will return your criminal background forms to you when you enter the core courses.

### Program Expectations

Students must enroll in ALL 16 CREDITS of Dental Assistant courses in one semester. Students completing less than all the courses must reapply to the program as a new student.

### Required Program Orientation Session

New students must attend an informational session with program staff. See an academic advisor for a list of times and dates.

### Certification Examination

After two years of work as a dental assistant, the graduate of this program is eligible to apply for the certification examination of the Dental Assistant National Board.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b>First Term</b>			
508-101	Dental Health Safety, (L) <i>[32 hours/ Internet and on-campus lab]</i>		1	Program student, Offered 3 weeks prior to semester start
508-302	Dental Chairside (T, L)	10	5	Program student, 508-101 or concurrent, Co-requisites: 508-303, 508-304, 508-305, 508-306, 508-307
508-303	Dental Materials (T, L)	4	2	Program student, 508-101 or concurrent Co-requisites: 508-302, 508-304, 508-305, 508-306, 508-307
508-304	Dental and General Anatomy (T)	3	2	Program student, 508-101 or concurrent, Corequisites:508-302, 508-303, 508-305, 508-306, 508-307
508-305	Applied Dental Radiography (L)	4	2	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-304, 508-306, 508-307
508-306	Dental Assistant Clinical (C)	10	3	Program student, 508-101 or concurrent, Corequisites:508-302, 508-303, 508-304, 508-305, 508-307
508-307	Dental Assistant Professional (T)	2	1	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-304, 508-305, 508-306
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 16

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Dental Hygienist program is a good option if you are seeking a career in the health field, have good organizational skills, enjoy working with people, and are detail-oriented.

During your educational program, you will work as a member of a dental health team and learning in CVTC's very own operational dental clinic, focusing on the assessment, diagnosis, treatment planning, implementation, evaluation, and documentation of dental disease as well as prevention of dental disease. You'll

- perform oral inspections.
- remove deposits and stains from teeth.
- learn radiographic (x-ray) techniques using digital sensors as well as analog or traditional film-based x-rays.
- counsel patients in preventative dental care.

There is also a service-learning requirement, allowing you to receive a broad base of dental experience in general dentistry as well as specialty areas, giving you a better understanding of the array of dental options available to patients.

The program prepares you to take the national, regional, and state practical exams that are required for you to be licensed. Graduates of the program are held to high standards. They must

- meet the dental health needs of diverse populations.
- customize and proceed with emergency care protocol based on recognizing symptoms of medical/dental emergencies.
- use the most current infection control guidelines and safety precautions in all laboratory and clinical settings.
- apply principles of dental practice management as a member of a dental health team.
- demonstrate ethical and professional behavior in all roles as a dental hygienist.

Graduates are working in public and private dental practices, hospitals, community dental health facilities, and in research. Job prospects are expected to remain excellent. You have opportunities!

This program is accredited by the Commission on Dental Accreditation of the American Dental Association.

## Admission Requirements

- COMPASS® pre-entry assessment, 85 on Reading, 35 on Algebra
- Wisconsin criminal background check (requires a processing fee)
- Two semesters of high school work or one semester of postsecondary work in algebra, biology, and chemistry with grades of "C" or better. (This course work should be current. If it has been more than five years since you completed the courses, you may benefit from opportunities to refresh your learning. An academic advisor can help you make plans.)
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

- Student hygienists must purchase professional liability insurance and furnish uniforms, instruments, and textbooks.

## Helpful Background

- Strong science aptitude
- Oral and written communication skills
- Strong reading and problem-solving skills
- Computer knowledge
- Outgoing personality

This program is intense. To ensure your own success, complete as many of the general education courses as possible before beginning the core courses.

## Career Opportunities

- Dental Hygienist
- Dental Sales & Marketing
- Dental Assistant/Hygiene Assistant
- Dental Receptionist
- Public Health

## Program Tips

### Health Requirements, Criminal Background Forms, and CPR

The following must be completed and approved before you enter the core courses:

The Admissions Office will mail specific physical and dental exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting. The program director will return your criminal background forms to you when you enter the core courses.

Proof of TB test must be on file.

### Required Program Orientation Session

New students must attend an informational session with program staff. See an academic advisor for times and dates.

### Dental Labs

Please note that most of the dental labs are during the day and early evening. Labs require flexibility due to some off campus clinical participation.

The Dental Hygienist program is academically rigorous and demands a strong, up-to-date science background.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term (Summer)</b>				
806-177	General Anatomy and Physiology (T, L)	10	4	High School Chemistry with a "C" or better. (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>4 cr.</b>	
<b>Second Term</b>				
508-101	Dental Health Safety (L) [August, 32 hours] Internet and on-campus lab		1	Program student, <b>must be completed prior to program start (See tip sheet, Computer skills are strongly recommended)</b>
508-102	Oral Anatomy, Embryology, Histology	5	4	Program student, 806-177, 508-101
508-103	Dental Radiography (T, C)	4	2	Program student, 508-101, 508-102 or concurrent
508-105	Dental Hygiene Process 1, (T, C)	8	4	Program student, 508-101, 508-102, 508-103 or concurrent
806-186	Introduction to Biochemistry (T, L)	5	4	Fall only, (See Prepared Learner Guide)
806-197	Microbiology (T, L)	5	4	806-177
<b>Total Semester Hrs./Week and Total Credits</b>			<b>27</b>	<b>19 cr.</b>
<b>Third Term</b>				
508-106	Dental Hygiene Process 2, (T, C)	10	4	508-102, 508-103, 508-105
508-108	Periodontology, (T,L)	4	3	Program student, 508-102, 508-103, 806-186, 806-197, (508-106, 508-111 or concurrent)
508-109	Cariology, (T)	1	1	Program student, 806-186, 806-197, (508-106 or concurrent)
508-110	Nutrition and Dental Health, (T)	2	2	Program student, 806-186 or concurrent
508-111	General and Oral Pathology, (T)	3	3	Program student, 508-102, 508-103, 806-177, (508-106 or concurrent)
801-195	Written Communication <b>OR</b>	3	3	(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>23</b>	<b>16 cr.</b>
<b>Fourth Term</b>				
508-112	Dental Hygiene Process 3 (T, C)	13	5	508-106, 508-108, 508-109, 508-110, 508-111
508-113	Dental Materials (T, L),	3	2	508-101, (508-102, 508-103 or concurrent)
508-114	Dental Pharmacology, (T)	2	2	806-186, 806-197, 508-106, (508-112 or concurrent)
508-115	Community Dental Health, (T)	2	2	508-112 or concurrent
508-119	Dental Hygiene National Board Review (T)		1	Online only
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>26</b>	<b>15 cr.</b>
<b>Fifth Term</b>				
508-107	Dental Hygiene Ethics and Professionalism, (T)	1	1	Program student, 508-112; Co-requisite: 508-117
508-116	Dental Pain Management (L)	2	1	508-102, 508-103, 508-112, 508-114
508-117	Dental Hygiene Process 4 (C)	12	4	508-112, 508-113, 508-114, 508-115
508-118	Health Occupations Career (T)	1	1	Program student, 508-112; Co-requisite: 508-117
801-196	Oral/Interpersonal Communication <b>OR</b>	3	3	
801-198	Speech			
809-172	Intro to Diversity Studies <b>OR</b>	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology			(See Prepared Learner Guide)
809-188	Developmental Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>27</b>	<b>16 cr.</b>

**MINIMUM PROGRAM CREDITS REQUIRED = 70**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Diagnostic Medical Sonography (DMS) program can prepare you for entry-level employment in a general ultrasound department. Duties of a sonographer include performing abdominal, obstetrical, and gynecologic imaging; superficial structure imaging; and limited vascular ultrasound imaging.

Sonographers operate high-technology equipment while working with patients who may be sick, disabled, and/or dependent. You must apply knowledge of anatomy, physiology, and pathophysiology to the human body for success in this program and in your profession. You will be required to complete a seven-month internship during the second year and must be prepared to relocate for that portion of your program.

Graduates of a Associate Degree or higher Nursing Program may be considered on a case-by-case basis for Advanced Placement acceptance. Students must be Nursing Board eligible.

Advanced standing status in this program is available for people with a minimum of two years of education in allied health, such as Radiography or Nursing.

Upon graduation, you will be prepared for and therefore eligible to complete the national registry examination in ultrasound physics, obstetrics/gynecology, and abdominal ultrasound (ARDMS Boards).

The program is accredited through the Committee on Allied Health Education and Accreditation/JRC-DMS, 6021 University Boulevard, Suite 500, Ellicott City, MD 21043; [www.jrcdms.org](http://www.jrcdms.org); e-mail [jrcdms@intersocietal.org](mailto:jrcdms@intersocietal.org).

## Admission Requirements

- COMPASS® pre-entry assessment, 80 on Reading, 45 on Pre-Algebra; (no assessment for advanced placement students)
- Wisconsin criminal background check (requires a processing fee)
- Algebra, Chemistry, two semesters at high school level or one semester at postsecondary level with grade of "C" or better
- Submit proof of completion of Nursing Assistant training that includes a clinical component. Acceptable documentation is a Nurse Aide Directory card, a transcript or diploma from a technical college, training agency or nursing home.
- A pre-entrance health history and physical examination must be on file three weeks prior to entering the DMS core courses. The Admissions Office will notify you at the appropriate time.
- Sufficient visual, communication, and motor skills and satisfactory intellectual and emotional functions to perform to the high standards maintained in this career. A detailed list is available with the Diagnostic Medical Sonography program information at [www.cvtc.edu](http://www.cvtc.edu) or through an academic advisor.
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

## Helpful Background

- Advanced algebra, geometry
- Advanced science, chemistry
- Computer technology
- Strong reading and communication skills
- Critical thinking skills

## Career Opportunities

- Diagnostic Medical Sonographer
- Sonographer
- Ultrasonographer
- Ultrasound Technologist

## Program Tips

### Program Orientation

Program orientation is required for all students entering the core courses. You will be notified of the date and time.

### Nursing Assistant

The Basic Nursing Assistant course 543-300 is a requirement that cannot be counted for financial aid purposes. Students must assume responsibility for payment of the cost of the Basic Nursing Assistant course. See your academic advisor if you have questions. The Nursing Assistant course must include a clinical component.

### Second and Third Semester Students

Due to the rigor and time commitment of the program, it will be difficult to maintain employment.

### Physical Requirements

All students must meet the technical standards for Diagnostic Medical Sonography. The technical standards are available from Admissions. If you are unable to meet the technical standards and require accommodations, please contact CVTC at 1-800-547-2882.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
501-101	Medical Terminology (T)	3	3	
526-200	Introduction to DMS (T,L)	4	3	Program student
804-113	College Technical Math 1A	4	3	(See Prepared Learner Guide)
806-154	General Physics 1	5	4	804-114 (waived)
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>21</b>	<b>17 cr.</b>	
<b>Second Term</b>				
526-221	Sonography Physics 1(T,L)	4	3	Program student, 526-200; Co-requisite 526-223
526-207	Abdominal Sonography (T, L)	6	4	501-101, 806-177; 806-179 or concurrent
526-208	OB/GYN Sonography 1 (T, L)	4	3	501-101, 806-177; 806-179 or concurrent
526-210	Cross Sectional Anatomy (T)	2	2	Program student; 526-207, 526-208 or concurrent
526-223	Vascular Imaging 1 (T, L)	4	3	Program student; 526-200; Co-requisite 526-221
806-179	Advanced Anatomy and Physiology (T, L)	5	4	806-177
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>19 cr.</b>	
<b>Third Term (Summer)</b>				
809-196	Introduction to Sociology (T)	6	3	(See Prepared Learner Guide)
801-195	Written Communication (T)	6	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>12</b>	<b>6 cr.</b>	
<b>Fourth Term</b>				
526-211	Superficial Sonography (T, L)	3	2	526-207, 526-208; 526-210 or concurrent; Co-requisite 526-222
526-212	OB/GYN Sonography 2 (T, L)	4	3	526-208; Co-requisite 526-203, 526-222
526-222	Sonography Physics 2	2	2	Program student, 526-221; Co-requisite 526-211, 526-212, 526-224
526-203	Scanning With Proficiency (L) [2 <sup>nd</sup> 8 weeks]	4	1	Program student; Co-requisite 526-212
526-224	Vascular Imaging 2	4	3	Program student, 526-223; Co-requisite 526-222
801-196	Oral/Interpersonal Communication (T)	3	3	
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>23</b>	<b>17 cr.</b>	
<b>Fifth Term</b>				
526-209	DMS Clinical Experience 1 (C) [1 <sup>st</sup> 8 weeks, 320 total hours]	40	2	Program student, 526-212; Co-requisite 526-226
526-226	DMS Clinical Experience 2 (C) [2 <sup>nd</sup> 8 weeks, 319 total hours]	40	4	Program student; Co-requisite 526-209
<b>Total Semester Hrs./Week and Total Credits</b>			<b>6 cr.</b>	
<b>Sixth Term (Summer) (Internship)</b>				
526-215	DMS Clinical Experience 3 [11 wks, 440 total hours]	40	4	Program student, 526-226
526-217	Registry Review (T)	2	1	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>5 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

32-412-1

## Description

If you have a talent for working with mechanical systems and good problem-solving skills, the Diesel/Heavy Equipment Technician program could be a good match for you.

As a graduate, you would inspect, analyze, and repair heavy trucks and equipment. Many employers require NATEF/ASE and Department of Transportation certification. The Diesel Truck Technician program at CVTC helps you meet those requirements, giving you an edge when it comes time to start your career.

Your instructors are ASE certified Heavy Duty Truck Technicians with many years of trade and teaching experience. Your program will include instruction in several core areas, all required for NATEF/ASE certification:

- Diesel engines
- Suspension and steering
- Brakes
- Electrical/electronic systems
- Preventive maintenance inspection
- Drive train
- Heating
- HVAC -Heating, Ventilation, and Air Conditioning System
- Air conditioning systems

All students graduate from the program with a Class “A” commercial driver’s license – necessary if you’re going to test drive those big rigs – along with DOT certifications as a 396.25 Brake Inspector, 396.19 Vehicle Inspector, and State AG 136 Mobile Air Conditioning Certification.

The job outlook is very good for people with strong technical skills who complete formal training in diesel mechanics. This program offers the training you need for a competitive edge toward starting your career!

## Admission Requirements

- COMPASS® pre-entry assessment
- Results of controlled substance testing must be submitted before starting classes.
- Department of Transportation (DOT) Medical/Physical Requirement form.
- Applicant must possess a valid driver’s license through the duration of the program.

## Helpful Background

- Automotive classes
- Mathematics
- Science

Students are subject to random controlled substance testing while enrolled in the program.

## Career Opportunities

- Fleet Truck Service Technician
- Dealer Truck Service Technician
- Bus Technician
- Trailer Technician
- Electrical Technician
- Air Conditioning Technician
- DOT Inspector
- Technical Service Representative
- Sales Representative
- Shop Foreman

## Program Tips

### Commercial Driver’s License (CDL)

A Class A Commercial Driver’s License (CDL) including air brakes is required for graduation. Students who already have a CDL must show proof/verification of their license to receive credit for 458-320 CDL License Training.

### Controlled Substance Testing

A negative controlled substance test result is required before program entry. Students are subject to random controlled substance testing while enrolled in the program. Testing positive during the course of the program may jeopardize graduation.

### ASE Certification

This program is an ASE (Automotive Service Excellence) program, certified by NATEF (National Automotive Technician Education Foundation). This enhances the student’s employment potential. All students will be required to complete two ASE exams each year:

- First year exams are T4-Brakes and T5-Suspension/Steering
- Second year exams are T2-Diesel Engines and T8-Preventative Maintenance Inspection

### Tool Set Purchase

You will be required to purchase an approved tool set that costs at a minimum \$3,500 from a college-approved vendor prior to starting. These tools will be used throughout the program.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
412-305	Truck Chassis I (T, L) [ <i>1<sup>st</sup> 8 weeks</i> ]	20	5	Program student, Co-requisite: 412-306
412-306	Truck Chassis II (T, L) [ <i>2<sup>nd</sup> 8 weeks</i> ]	20	5	Co-requisite: 412-305
412-345	Basic DC Electricity (T, L)	3	2	Program student
442-314B	Related Welding for Diesel	4	2	Program student
801-351	Applied Communication	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Second Term</b>				
412-307	Chassis Electrical (T, L)	10	5	412-306, Co-requisites: 412-308, 412-309
412-308	Mechanical Gear Trains (T, L)	8	4	412-306, Co-requisites: 412-307, 412-309
412-309	HVAC and Refrigeration (T, L)	6	3	Program student; 412-306; Co-requisites: 412-307, 412-308
458-320	CDL License Training	-	1	Program student
804-360D	Math for Tech Trades-Diesel	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Third Term</b>				
412-310	Diesel Engine Operation & Tune Up (T, L)	8	4	412-309, Co-requisites: 412-311, 412-312
412-311	Applied Mobile Hydraulics (T, L)	4	2	412-309, Co-requisites: 412-310, 412-312
412-312	Introduction to Electronic Control (T, L)	8	4	412-309, Co-requisites: 412-310, 412-311
412-320	Diesel Equipment Service Management (T)	3	2	
419-301	Related Fluid Power (T) [ <i>1<sup>st</sup> 8 weeks</i> ]	4	1	Co-requisite: 412-311
420-347	Related Machine Tool	4	2	
806-341	Vocational Science	4	2	804-360D
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Fourth Term</b>				
412-313	Diesel Engine Overhaul (T, L)	10	5	412-312, Co-requisites: 412-314, 412-315
412-314	Electronic Diagnostics (T, L)	8	4	412-312, Co-requisites: 412-313, 412-315
412-315	Preventive Maintenance (L)	2	1	412-312, Co-requisites: 412-313, 412-314
412-380	Diesel Internship (144 hours)	-	2	412-312
442-320A	Advanced Related Welding for Diesel	4	2	Program student, 442-314B
809-351	Occupational Relations	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 64

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're seeking a career that involves helping children learn about themselves and the world around them, the Early Childhood Education program might be for you.

As an early childhood teacher, you would play a vital role in the development of children. You'll work with children individually and in groups to help them improve their social skills and prepare for formal education.

In this program you'll study the physical, emotional, intellectual, and social development of children. You'll be placed with qualified teachers and child care providers in a variety of early childhood community settings, such as group and family child care settings, Head Starts, preschools, and kindergartens. You'll also help create and complete a class advocacy project to improve the status of children and their families in this region.

You may enroll in the program full- or part-time. If you already have experience working in child care or early childhood education, you could be granted advanced standing. If you would like to continue your education, many of the credits you earn will transfer to selected universities toward a four-year degree in early childhood or elementary education.

The need for qualified, experienced childcare providers is strong. This is a career area that offers the rewards of working with children and the satisfaction of knowing you are helping them grow and develop. It could be just what you're looking for!

## Admission Requirements

- COMPASS® pre-entry assessment
- Wisconsin criminal background check (requires a processing fee)
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Early Childhood Education program. The Admissions Office will notify you at the appropriate time with a specified deadline.

## Helpful Background

- Art, music
- Child growth and development courses
- Family and consumer related courses
- Speech
- Psychology
- Sociology
- American government

## Career Opportunities

- Child Care Center Teacher
- Preschool Teacher
- Family Child Care Provider
- Child Care Program Supervisor
- Elementary Public School Teacher Aide
- Head Start Teacher/Assistant
- Nanny
- Before- and After-School Care

## Program Tips

### Annual Criminal Record Check

A criminal record check must be completed prior to placement at observation or practicum sites. The Wisconsin State Department of Health and Social Services (Office of Regulation and Licensing) states:

If a person subject to an annual criminal record check is determined to have been convicted of or have a pending criminal charge substantially related to the care of children or the operation of the center, that person may not be licensed or allowed on the premises of the day care center or day camp and will not be able to take the clinical courses in the Child Care program.

### Physical Requirements

A physical (including a TB test) must be completed prior to placement at observation or practicum sites. The physical must be conducted at the UW Health Eau Claire Family Medicine Clinic, 617 West Clairemont Avenue, Eau Claire. For appointments please call: (715) 839-5175.

### Employment Requirement

A current CPR certificate is required for employment in a day care setting. CVTC offers a First Aid-CPR course, 531-350, 1 credit, or you can contact local agencies (American Heart Association, First Aid) or local hospitals/clinics to register for their CPR courses.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>Complete 1<sup>st</sup> and 2<sup>nd</sup> semester to graduate with the Child Care Services Technical Diploma (31-307-1)</b>				
<b>First Term</b>				
307-148	ECE: Foundations of Early Childhood Education (T)	3	3	Fall only; Program student
307-151	ECE: Infant and Toddler Development (T)	3	3	Fall only; Program student
307-166	ECE: Curriculum Planning (T, L)	4	3	Fall only; Program student
307-167	ECE: Health, Safety, and Nutrition (T, L)	4	3	Fall only; Program student
307-174	ECE: Practicum 1	9	3	Fall only; Program student, 307-148 or concurrent
801-195	Written Communication (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Second Term</b>				
307-188	ECE: Guiding Children's Behavior (T)	3	3	Spring only; Program student
307-178	ECE: Art, Music, and Language Arts (T, L)	4	3	Spring only; Program student
307-179	ECE: Child Development (T)	3	3	Spring only; Program student
307-192	ECE: Practicum 2	9	3	Spring only; Program student, 307-174
809-198	Introduction to Psychology (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Continue and complete 3<sup>rd</sup> and 4<sup>th</sup> semesters to graduate with the Early Childhood Education Associate Degree (10-307-1)</b>				
<b>Third Term</b>				
307-194	ECE: Math, Science, and Social Studies (T, L)	4	3	Fall only; Program student
307-195	ECE: Family and Community Relationships (T)	3	3	Fall only; Program student
307-197	ECE: Practicum 3	9	3	Fall only; Program student, 307-192
804-107	College Mathematics (T)	4	3	(Prepared Learner Guide)
809-122	Introduction to American Government	3	3	(Prepared Learner Guide)
809-128	Marriage and Family (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Fourth Term</b>				
307-187	ECE: Children with Differing Abilities (T)	3	3	Spring only; Program student
307-198	ECE: Administering an Early Childhood Education Program (T)	3	3	Spring only; Program student
307-199	ECE: Practicum 4	9	3	Spring only; Program student, 307-197
801-196	Oral/Interpersonal Communication (T) <b>OR</b>	3	3	
801-198	Speech (T)			
809-172	Intro to Diversity Studies (T)	3	3	(Prepared Learner Guide)
	Elective		3	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Suggested Electives</b>				
809-188	Developmental Psychology (T)	3	3	(Prepared Learner Guide)
809-195	Economics (T)	3	3	(Prepared Learner Guide)

**MINIMUM PROGRAM CREDITS REQUIRED = 69**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

31-413-2

## Description

If you enjoy working outdoors and like solving problems with both your head and your hands, the Electrical Power Distribution program might be a good match for you. Graduates of this program are helping to keep our country's electrical distribution network in good working order and expanding the network to provide better service.

The program includes instruction in the fundamentals of electrical theory. Through classroom and outdoor lab activities you'll learn the skills you need to succeed in this career area:

- Operate line equipment
- Climb distribution and transmission structures
- Build and maintain overhead and underground power lines
- Install transformers, capacitors, and KWH meters
- Tie rope knots and make rope splices
- Perform hotline maintenance

You'll learn how to use protective equipment such as fuses, circuit breakers, and lightning arrestors. You'll operate hydraulic equipment such as aerial lift trucks, digger/derrick trucks, and trencher/backhoes. You'll receive training in performing first aid, CPR, and AED (Automatic External Defibrillator). And since you'll need a commercial driver's license to haul equipment, a one-credit Class "A" CDL course is included in the program.

To succeed, you'll need good reading and math skills. As a student, you'll be subject to random controlled substance and alcohol testing. As an employee, you'll need a good driving record.

It's a rewarding, challenging career area. This could be the educational program you're looking for!

## Admission Requirements

- COMPASS® pre-entry assessment; performance above minimum scores is highly recommended
- Department of Transportation (DOT) physical exam and controlled substance testing prior to beginning core courses.
- Verification of driver's license

## Helpful Background

- Electricity
- Mathematics
- Science

## Career Opportunities

- Apprentice Lineworker
- Apprentice Substation Electrician
- Apprentice Electrician
- Cable Installer
- Metering Technician
- Temporary Labor for Power Companies

## Program Tips

### Physical Examination

Department of Transportation (DOT) physical exam and initial controlled substance testing are required before program entry. On the first day of class, all students are required to provide documentation of a completed Medical/Physical Exam Requirement. Students are subject to random controlled substance testing while enrolled in the program.

### Commercial Driver's License (CDL)

A Class A Commercial Driver's License (CDL), including air brakes, is required for graduation. Students who already have a Class A CDL must show proof of their license, including air brakes, and current DOT physical to receive credit for 458-320 CDL License Training.

### Additional Costs

The program requires the purchase of approximately \$1,000 in tools and/or equipment. This equipment must be purchased through CVTC for liability purposes.

### Math and the Electrical Power Distribution Program

Students in this program are required to complete 804-363 Math for Electricity and Electronics. Although this course has no official prerequisite, we strongly recommend that students review their algebra skills, as Math for Electricity and Electronics does include algebra, geometry and trigonometry.



Lineman training materials are furnished through a grant from the Institute for Safety in Powerline Construction.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
413-303	Electricity of EPD 1 (T, L) <i>[1<sup>st</sup> 8 wks]</i>	16	4	Program student; Co-requisite: 413-304 and 413-305
413-304	Electricity of EPD 2 (T, L) <i>[2<sup>nd</sup> 8 wks]</i>	16	4	Program student; Co-requisite: 413-303 and 413-305
413-305	Basic Line Construction Lab (L)	9	5	Program student; Co-requisite: 413-303 and 413-304
458-320	CDL License Training (T, L)	-	1	Program student
801-351	Applied Communication (T)	3	2	
804-363	Math for Electricity and Electronics (T)	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Second Term</b>				
413-306	EPD Power & Transformers (T, L) <i>[1<sup>st</sup> 8 wks]</i>	16	4	413-303, 413-304, 413-305; Co-requisite: 413-307 and 413-308
413-307	Electric Line Apparatus (T, L) <i>[2<sup>nd</sup> 8 wks]</i>	16	4	413-303, 413-304, 413-305 Co-requisite: 413-306 and 413-308
413-308	Advanced Line Construction Lab (L)	8	4	413-303, 413-304, 413-305; Co-requisite: 413-306 and 413-307
806-341	Vocational Science (T, L)	4	2	804-363
809-351	Occupational Relations (T)	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 34**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Electromechanical Technology program can prepare you for a career in servicing, installing, and repairing the automated equipment used in manufacturing, food and ethanol processing, and mining. Automated manufacturing processes are increasing in speed and complexity. For you, this means exciting jobs with great pay!

This could be a good career area for you if you can work in a team environment but also can solve problems and function on your own. You'll need to find solutions rapidly while working on complex mechanical and electrical systems. Successful students have good mechanical aptitude and a curiosity about how things work.

In addition to classroom instruction, you will work on state-of-the-art equipment used in the field. The Electromechanical Technology program can help you develop skills that apply in several career areas:

- Electronics
- Pneumatics
- Hydraulics
- Computers
- Programmable Logic Controllers (PLC)
- Robotics
- Mechanics
- Other automated equipment

Graduates of this program work on equipment that makes everything from paper products to electronics to food products. If you're interested in gaining the foundation for a lifetime of opportunities in high-tech manufacturing, processing, and mining, this could be the program for you.

## Admission Requirements

- COMPASS® pre-entry assessment  
75 on Reading  
45 on Pre-Algebra

## Helpful Background

- Algebra and geometry
- Computer knowledge
- Ability to work as a team member
- Use of logical problem-solving techniques
- Mechanical aptitude

## Career Opportunities

- Manufacturing Engineering Technician
- Electrical and Instrumentation Technician
- Engineering Project Technician
- Systems Technician
- Automated Manufacturing Technician
- Electromechanical Technician
- Technical Support Staff
- Field Service Technician

## Program Tips

### Pre-program Student

A pre-program student may take courses before acceptance into the program. Pre-program students may enroll in general education courses before entering major core courses:

- 801-195 Written Communication (Prepared Learner Guide)
- 801-197 Technical Reporting (Prerequisite: 801-195 with a grade of "C" or better)
- 804-113 College Technical Mathematics 1A (Prerequisite: 804-110 with a grade of C or better, Prepared Learner Guide)
- 804-114 College Technical Mathematics 1B (Prerequisite: 804-113)
- 806-154 General Physics I (Prerequisites: 804-114 or 804-115)
- 809-199 Psychology of Human Relations (Prepared Learner Guide)

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
605-107	Basic Electronics	5	3	(804-113 or concurrent)
612-101	Related Fluid Power	4	2	
620-101	Automated Processes <b>OR</b>	3	2	Fall only
625-160	Core Manufacturing Skills	2		Program student
620-155	Industrial Electronics I	3	2	
620-193	Electronic Software Applications	4	2	
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-113	College Technical Mathematics 1A	4	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>26</b>	<b>17 cr.</b>	
<b>Second Term</b>				
605-108	Devices and Digital	5	3	605-107
605-109	Industrial Computer Technology	5	3	620-193, Spring only
620-135	PLC Introduction	3	2	620-193, 620-155 or instructor permission
620-144	Applied EM Machine Principles	4	2	
620-156	Industrial Electronics II	3	2	605-107, 620-155, 620-193
804-114	College Technical Mathematics 1B	3	2	804-113
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>17 cr.</b>	
<b>Third Term</b>				
420-190	Machine Tool Processes	6	3	620-156, Fall only
606-185	Blueprint Reading <b>OR</b>	2	1	Fall only
606-161	CAD, Basic	4	3	
620-136	PLC Applications	6	3	620-135, 620-156 or instructor permission
620-145	Industrial Robotic Systems	4	2	620-156, Fall only
620-158	Sensors	3	2	620-156, 605-108
620-191	Motion Control Applications	5	3	605-108, 620-156, Fall only
806-154	General Physics I	5	4	804-114 or 804-115
<b>Total Semester Hrs./Week and Total Credits</b>		<b>32</b>	<b>18-20 cr.</b>	
<b>Fourth Term</b>				
605-152	SCADA Concepts	4	2	620-136, Spring only
620-146	Machine Troubleshooting Techniques ( <i>1st 8 wks.</i> )	4	2	612-101, 620-136, 620-144, 620-145, Spring only
620-147	Control Applications ( <i>2nd 8 wks.</i> )	4	2	612-101, 620-136, 620-144, 620-145, Spring only
620-148	EM System Interfacing	8	4	420-190, 612-101, 620-136, 620-144, 620-145, (620-146, 620-147 or concurrently), Spring only
620-150	Instrumentation	3	2	620-156, 620-193, Spring only
801-197	Technical Reporting	3	3	801-195 with a minimum grade of C
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>29</b>	<b>18 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 70**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If this is how you would describe yourself, you could be a good candidate for the Environmental Refrigeration, Air Conditioning, and Heating Service Technician program:

- Enjoy solving problems
- Good mechanical aptitude
- Can work independently and as a member of a team
- Like working with tools
- Interested in latest energy-saving technologies
- Detail-oriented
- Physically fit

As a graduate of this program, you will be responsible for installation, service and maintenance of refrigeration, air conditioning, and heating equipment as well as geothermal, solar and other renewable energy equipment.

The program prepares you to take the Environmental Protection Agency (EPA) Certification Exam for safe handling of refrigerants. The Industry Competency Exam (ICE) sponsored by the Air Conditioning and Refrigeration Institute for HVAC/R technicians is a requirement for all students.

Your coursework the first semester covers the fundamentals:

- Gas, oil, and electric furnaces
- Basic refrigeration and air conditioning systems
- HVACR technical problem solving
- Renewable energies
- Related electricity

Your second semester coursework will build on what you've learned, with emphasis on geothermal and solar systems, and HVAC/R maintenance, service, and installation. As part of your program, you'll be provided with hands-on technical installation and service situations to complete.

Nationally there is a shortage of HVAC/R installation, service, and maintenance technicians. This is a career area full of opportunity!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Science
- Basic electricity

## Career Opportunities

- Refrigeration and Air Conditioning Technician
- Field Technician for Manufacturing Firms
- Maintenance Technician for Commercial Buildings
- Heating Service Technician
- Salesperson for HVAC/R Wholesalers

## Program Tips

A graduate of Environmental Refrigeration, Air Conditioning & Heating Service Technician can transfer his or her credits and complete the two-year Associate Degree with an additional three semesters.

### Competency Exams

Technicians who pass the Industry Competency exam offered by the Air Conditioning Refrigeration Institute (ARI) demonstrate that they have met and surpassed nationwide industry standards. Students should see their instructors for details. The fee for this exam is approximately \$30. The Refrigeration, Air Conditioning and Heating Technician program prepare students to take the Environmental Protection Agency (EPA) 608 certification exam for refrigerant recovery, recycling, and reclamation. The fee for this exam is approximately \$25.

### Tool Set Purchase

You will be required to purchase an approved tool set that costs approximately \$650 through CVTC. These tools will be used throughout the program.

### Evening Course Opportunities

If you are interested in evening courses, contact the academic advisor.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
601-125	Safety-HVAC	2	1	Program student
601-110	Principles of Heating and Air Flow (L)	8	4	601-141 or concurrent
601-111	Principles of Refrigeration (L)	4	2	601-141 or concurrent
601-116	Principles of Air Conditioning (L)	4	2	601-141 or concurrent
601-115	Renewable Energies for HVAC (L)	2	1	Program student
601-141	Electricity-HVAC (L)	6	3	
804-360B	Math for Technical Trades (Ref-AC-Heat) (T)	3	2	
801-351	Applied Communication	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>32</b>	<b>17 cr.</b>	
<b>Second Term</b>				
601-142	Schematic Wiring-HVAC (L)	4	2	601-141
601-130	Sheet Metal Layout (L)	2	1	
601-121	HVAC/R Service and Applications (L)	6	3	Program student; 601-111, 601-116, 601-141
601-151	Technical Problems-HVAC (L)	6	3	Program student; 601-110, 601-111, 601-116, 601-141
601-161	HVAC Load Calculations & Psychometrics (L)	6	3	Program student
601-120	Geothermal/Solar Applications (L)	4	2	
809-351	Occupational Relations	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>31</b>	<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 33**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

*Offered at various locations throughout the district • Fall entry date*

**30-090-1**

## Description

The Farm Business & Production Management is designed to further your education in production agriculture, if you are just entering this career area or have years of experience:

- Farmers
- Farm family members
- Farm employees
- Ag professionals
- FSA borrowers
- Bankers and lenders
- Non-traditional farmers

Day and evening courses are offered to provide you with practical information you can use immediately:

- Farm Business Production Management – Six courses offered; topics include crop production, land use management, livestock production, financial and business planning, and livestock health and biosecurity
- Cash Grain Production – Three courses offered in a three-year rotation; topics include agronomy cultural practices, facilities and equipment management, and marketing and financial management

In addition to classroom experiences, you'll receive individualized instruction:

- Implementing technologies, including computer assistance
- Farm business analysis, financial planning, and record keeping assistance
- Livestock and crop production practices

The Farm Business & Production Management program can help you make the most of your resources - part time, while you continue with your usual career responsibilities.

## Admission Requirements

- Must be engaged in production agriculture or interested in learning more about production agriculture
- Contact local farm business instructor at 715-577-3036, [mdenk1@cvtc.edu](mailto:mdenk1@cvtc.edu)

## Helpful Background

- High school agriculture
- Business management

## Career Opportunities

- Farm Owner/Operator
- Farm Manager
- Farm Worker
- Agriculture Industry Professional

## Program Tips

### Estimated Costs

This program is not eligible for financial aid consideration. Students may be eligible for grant funding. Please contact a Farm Business instructor for details. Students may also be eligible for an alternative student loan.

Contact the local farm business instructor late summer/early fall for class enrollment.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b><u>First Term</u></b>			
090-310	Farm Business Planning & Risk Management		4	
090-320	Land Use Management		4	
090-330	Precision Agronomics & Energy Management		4	
090-340	Livestock Nutrition & Reproduction		4	
090-350	Farm Business Analysis & Marketing Strategy		4	
090-360	Livestock Facility, Health & Biosecurity		4	
	<b>Total Hrs./Week and Total Credits</b>		24 cr.	

**MINIMUM PROGRAM CREDITS REQUIRED = 24**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you keep a clear head during emergencies and want to help people in need, the FireMedic program could be a good match for you.

This program prepares you for a career in fire service and paramedic arenas. It's a career area that requires highly developed character:

- Emotional stability and maturity
- Good verbal and written communication skills
- Good math and mechanical ability
- Ability to display good judgment under stress
- Caring for and empathy toward all people

Your coursework focuses on preparing you to respond to the diverse incidents of today's emergency service. Your program will include special courses in water, confined space, trench, high angle, and vehicle extrication rescue. When you finish the program you are prepared to take the National Registry for Emergency Medical Technician (EMT)-Paramedic, State of Wisconsin Firefighter I and Fire Apparatus Driver Operator Certification Exams.

While most graduates seek employment as career firefighters/paramedics, you have other opportunities. Your combined training in firefighting and paramedics strengthens your chances for placement in a related field. Your career path may lead you to working as a member of an industrial emergency response team or serving as a representative for a fire/emergency medical equipment vendor. According to the U.S. Department of Labor, the employment outlook for firefighters and paramedics is good. You have opportunities and options!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
- High school diploma or its equivalent
- A minimum 12th grade reading level is required in order to be able to read texts and codes
- Good math skills
- Required Information Session (RIS)
- Wisconsin criminal background check (requires a processing fee)
- American Heart Association CPR for Health Care Providers or American Red Cross Professional Rescuers certification
- Basic EMT Wisconsin License or eligible
- CVTC approved medical exam
- Good physical condition, to pass required physical ability examinations
- No physical impediments to interfere with performing strenuous firefighting work

## Helpful Background

- Three to four years of English
- Speech
- Two years of math (college prep)
- Chemistry
- Computer skills
- Fitness classes

## Career Opportunities

- Firefighter
- Paramedic
- Firefighter/Paramedic
- Supervisor

## Program Tips

### Program Prerequisite - 531-110 Basic Emergency Medical Technician (<http://www.cvtc.edu/ems>)

This course and successful completion of the National Registry of EMT's examination are prerequisites for entry into the FireMedic Associate Degree Program. An important note: to begin your first clinical you must possess a current Wisconsin EMT-Basic License. To register for EMT-Basic, the student must have completed American Heart Association – Health Care Provider or American Red Cross – Professional Rescuer certification. Current CPR and Wisconsin EMT certifications must be maintained throughout the program.

### Program Uniforms

Students will be required to wear program uniforms throughout the program. This includes a program tee-shirt, hospital scrubs, dress shirt, black and polishable steel-toed boots, and paramedic pants. Turnout gear will be provided by CVTC. Students must purchase the required program clothing prior to the start of classes.

### ID Badges

Picture identification badges will be required when completing coursework off-campus, such as internship site work, and public education presentations.

### Examinations

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

CVTC Approved Medical Exam – This exam must be completed during the fourth semester, prior to the internship. The cost of the exam will be the student's responsibility (approximately \$230). Controlled substance testing is required as a part of this exam; failure will prohibit entering the internship. Students are subject to random controlled substance testing while enrolled in the program.

### Additional Program Costs

- CVTC Approved Medical Exam
- Program Uniform Cost: Tee-shirt, hospital scrubs, dress shirt, black and polishable steel-toed boots, and paramedic pants
- Food, mileage, and lodging during internship
- Internship will require 24-hour shift work, including Saturdays and Sundays (may require students to adjust their work schedules)
- Criminal Background Check
- Stethoscope (if purchased)
- Firefighter I and Driver/Operator Certification Exams

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
503-105	Principles of Firefighting (L)	6	3	Program student
503-107	Fire Dept. Apparatus Ops (L)	6	3	Program student, 503-105 or concurrent
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-107	College Math	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Second Term</b>				
503-106	Fire Inspection Services (L)	4	2	Program student
503-141	Special Rescue (L)	6	3	Program student
531-911	EMS Fundamentals	2	2	Program student
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication	3	3	
809-188	Developmental Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Third Term</b>				
531-912	Paramedic Medical Principles	4	4	Program student; 531-911 or concurrent
531-913	Patient Assessment Principles (T, L)	4	3	Program student; 531-912 or concurrent
531-914	Pre-hospital Pharmacology (T, L)	4	3	Program student; 531-913 or concurrent
531-915	Paramedic Respiratory Management (T, L)	3	2	Program student; 531-914 or concurrent
531-916	Paramedic Cardiology (T, L)	5	4	Program student; 531-915 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16cr.</b>	
<b>Fourth Term (Summer)</b>				
531-917	Paramedic Clinical/Field 1 (192 hours)	12	3	Program student; 531-916 or concurrent
531-919	Paramedic Medical Emergencies (T)	4	4	Program student; 531-917 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>			<b>7 cr.</b>	
<b>Fifth Term</b>				
531-920	Paramedic Trauma (T, L)	4	3	Program student; 531-919 or concurrent
531-921	Special Patient Populations (T, L)	4	3	Program student; 531-920 or concurrent
531-922	EMS Operations (T)	1	1	Program student; 531-921 or concurrent
531-924	Paramedic Clinical/Field 2 (265 hours)	16	4	Program student
503-130	FireMedic Internship (C) (432 total hrs.)	24	2	503-105, 503-106, 503-107, 503-141
<b>Total Semester Hrs./Week and Total Credits</b>			<b>13 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

Looking for a career where you can become an essential part of the healthcare team? Would you like to work in a role “behind the scenes,” using electronic databases and the electronic health record (EHR)? If you are interested in combining an aptitude and interest in healthcare with computer technology, then a career as a Health Information Technician could be just right for you.

Every healthcare setting needs skilled health information technicians to manage, analyze, secure, and report data. This need will increase as the EHR continues to evolve and the national medical coding system changes. Employment settings include insurance companies, managed care organizations, hospitals, physicians’ offices, long-term care facilities, computer system vendors, among many other settings that maintain healthcare data.

At CVTC you will be able to experience this career first hand through classroom discussions, hands-on classroom lab learning activities, and professional practice experiences. The HIT program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Graduates from this program are eligible to write the national certification examination offered by AHIMA to become a Registered Health Information Technician (RHIT). These are credentials required by employers for most positions in this field. This is an extremely challenging and rewarding career!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
  - 60 on Writing
- Wisconsin criminal background check (requires a processing fee)
- Biology-two semesters at high school level or one semester at postsecondary level with grade of “C” or better
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the HIT program. The Admissions Office will notify you at the appropriate time with a specified deadline.

## Helpful Background

- Strong interest and aptitude in computer information systems and healthcare/health sciences
- Excellent spelling, reading, and proofreading skills
- Microsoft Office skills (Word, Excel, Access)
- Strong written and oral communication skills

## Career Opportunities

- Medical Coding Specialist
- Fee and Revenue Technician
- Insurance Claims Analyst
- Reimbursement Coordinator
- Data Quality Manager
- Privacy Officer

- Health Data Analyst
- HIM Department Manager
- HIM Compliance Specialist
- Clinical Documentation Specialist

## Program Tips

### Professional Certification

The Health Information Technology program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). Upon successful completion of the program, graduates are eligible to write the national certification exam offered by the American Health Information Management Association (AHIMA) to earn the credential of a Registered Health Information Technician (RHIT). This certification is required by employers by many positions in the field. For more information, visit the AHIMA website: <http://www.ahima.org/certification/>.

### Criminal Background Check and Health Requirements

A criminal background check needs to be completed for all students entering health related programs. Counselors review the criminal background checks and notify students about the impact that a criminal background will have on the student’s ability to complete a program. The Admissions Office will mail information about physical exam requirements. The completed exam forms must be on file three weeks prior to entering the core courses of the program.

A copy of your physical exam forms and criminal background check must be kept in your clinical file with the program director, as they will be checked each term before you will be authorized to go to a clinical/professional practice setting.

### Helpful Background

Before beginning this program, you should have experience with the basic use of Windows, word processing, spreadsheet, databases, and presentation software. If you are not comfortable using the above-mentioned software, you should take course 103-102 (Microsoft Office Suite) before starting the program.

### Demanding Course Work

The HIT program is academically rigorous. Students are encouraged to complete general education courses as a pre-program student, and/or during summer semesters, in order to lighten credit load during the Fall and Spring semesters. Note: A grade of C or better (not C-) is required in all courses of the program, including general education courses.

### Support Courses

Courses that may be beneficial to the HIT program students wanting to maintain full-time status include: Medical Insurance and Billing, Advanced Anatomy and Physiology, and computer courses from the Office Systems/Technology area and Computer Information Systems.

### Professional Practice Experiences

This program includes professional practice experiences at various healthcare agencies. Local sites cannot be guaranteed and some travel will be required. Students must be able to provide their own transportation to sites. Program faculty select, assign, and maintain contracts with professional practice sites.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
501-130	Healthcare IT	3	2	Program student
501-101	Medical Terminology	3	3	
530-176	Health Data Management	3	2	Program student, 530-181 or concurrent
530-181	Introduction to the Health Record <i>[Weeks 1-8](Online Only)</i>	2	1	Program student
530-182	Human Diseases for the Health Professions <i>(Online only)</i>	3	3	(501-101 and 806-177 or concurrent)
806-177	General Anatomy and Physiology	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>19</b>	<b>15 cr.</b>	
<b>Second Term</b>				
530-178	Healthcare Law & Ethics <i>(Online only)</i>	3	2	Program Student, 530-176
530-184	CPT Coding	4	3	Program student, 530-176, (501-101, 530-181, 530-182, 806-177 or concurrent)
530-197	ICD Diagnosis Coding	4	3	Program student, 530-176, (501-101, 530-181, 530-182, 806-177 or concurrent)
530-199	ICD Procedure Coding	3	2	Program student, 530-176, (501-101, 530-181, 530-182, 806-177 or concurrent)
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-123	Math with Business Applications	4	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>21</b>	<b>16 cr.</b>	
<b>Third Term (Summer)</b>				
801-196	Oral/Interpersonal Communication	6	3	
809-198	Introduction to Psychology <b>OR</b>	6	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>12</b>	<b>6 cr.</b>	
<b>Fourth Term</b>				
530-177	Healthcare Stats & Research	3	2	Program student, 530-176, 804-123
530-185	Healthcare Reimbursement	3	2	Program student, 530-184, 530-197, 530-199
530-160	Healthcare Informatics	5	4	Program student, 501-130, 530-176
530-195	Applied Coding <i>[Weeks 9-16]</i>	6	2	Program student, 530-184, 530-197, 530-199 (530-185 or concurrent)
530-196	Professional Practice 1	7	3	Program student, 530-178, 530-184, (530-177, 530-185, 530-160 or concurrent)
809-196	Introduction to Sociology <b>OR</b>	3	3	(See Prepared Learner Guide)
809-174	Social Problems			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>27</b>	<b>16 cr.</b>	
<b>Fifth Term</b>				
530-161	Health Quality Management <i>[Weeks 1-8]</i>	8	3	Program student, 530-177
530-194	HIM Organizational Resources <i>[Weeks 1-8]</i>	6	2	Program student, 530-196
530-150	Applied HIM Technology	4	3	Program student, 530-196
530-198	Professional Practice 2 <i>[Weeks 9-16]</i>	18	3	Program student, 530-196, (530-150, 530-161, 530-194, 530-195 or concurrent)
809-195	Economics <b>OR</b>	3	3	Suggest distance learning option, (See Prepared Learner Guide)
809-197	Contemporary American Society <b>OR</b>			Suggest distance learning option, (See Prepared Learner Guide)
809-172	Intro to Diversity Studies			Suggest distance learning option, (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>14 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 67

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're interested in helping others, working as a member of a team, and have good communication skills, a career in human resources could be a good match for you.

Human resources play a critical role in the success of any organization. With the employment picture rapidly changing, human resources professionals have diverse career opportunities. CVTC's Human Resources program is your first step toward a rewarding career.

This program includes an internship and covers the key areas within human resources. You'll learn how to

- recruit and select qualified candidates for available positions.
- understand and apply employment laws.
- organize and promote safety, health, and wellness programs.
- develop and evaluate effective employee training programs.
- administer benefit and payroll programs.
- maintain employee records and documentation.
- administer human resource policies including the performance management system.
- act professionally and ethically in a work setting.
- acquire human and employee relation skills
- learn the role of HR in the workplace

Graduates pursue careers as HR generalists, recruiters, trainers, payroll administrators and other human resource specialists in private industry, nonprofit organizations and government agencies. This program could be what you need to begin a rewarding career!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Good communication skills
- Ability to work collaboratively
- Excellent interpersonal and professional skills

## Career Opportunities

- Human Resource Generalist
- Recruiter
- Staffing Coordinator
- Human Resource Specialist
- Payroll Assistant
- Benefits Coordinator
- Human Resource Assistant

## Program Tips

### Integrated Business Programs

When you applied to CVTC, you chose to pursue a degree in the human resources field. Because there is a common set of core classes in the first and second semesters of the business management, human resources, and marketing management programs, students can more easily complete more than one program, graduating with multiple

majors. You can also more easily change your program if you find that business management or marketing management is a better fit for you. If you are interested in changing or adding a program, please make an appointment with your business academic advisor.

### Continuing to a 4-year College/University

If you believe you will be transferring to a four-year institution after graduating from CVTC, we recommend you enroll in 804-189 Introductory Statistics. This course transfers to most four-year institutions; if you want a more applied math course or don't think you'll be working toward a bachelor's degree, you may want to enroll in 804-123 Math & Business Applications. 101-111 Accounting 1 transfers to most 4-year institutions while 101-105 Introduction to Accounting does not transfer to most 4-year institutions

### Human Resources Internship

The human resource internship is the culminating experience in your Human Resource program. You will perform human resource related activities on a job site between 80 to 120 hours during the semester. The internship may be paid or unpaid.

You should enroll in the human resource internship in your final semester of the program. To register for the internship, students must note the prerequisites required (see the program requirement sheet). If you have not completed these courses or are not registered for these courses concurrently, you must contact the Human Resources Department Chair for approval.

### Distance Learning

Some courses are available online, in hybrid format, and evenings. Check the course offerings listing for more information.

### Certificates

If you intend to complete only a certificate and not the associate degree, contact the Registration Office to apply for certificate status or go to CVTC's website and complete the Certificate Program Identification form. If you are enrolled in an associate degree program, you do not need to apply for the certificate.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
116-193	Introduction to Human Resources	3	3	
102-131	Introduction to Business	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
801-136	English Composition I	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17</b>	<b>cr. 17</b>	
<b>Second Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
101-111	Accounting 1 <b>OR</b>	5	4	
101-105	Introduction to Accounting	3	3	
102-112	Principles of Management	3	3	
116-127	Employee Relations	3	3	116-193
104-104	Professional Selling	3	3	
801-196	Oral/Interpersonal Communication	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 15-17</b>	<b>cr. 15-16</b>	
<b>Third Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
102-113	Business Ethics	3	3	
116-110	Employee Benefits	3	3	116-193
116-113	Human Resource Law	3	3	116-193
116-114	Recruitment & Selection	3	3	116-193
801-198	Speech	3	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 18</b>	<b>cr. 18</b>	
<b>Fourth Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
116-138	Safety, Security and Risk	3	3	
116-111	Performance Mgt & Employee Rewards Sys	3	3	116-193
101-121	Payroll Accounting	2	2	
116-190	Leadership Development <b>OR</b>	3	3	
116-112	Training Systems	3	3	
116-128	Human Resources Internship		1	Program student, 116-127, 116-110, 116-113, 116-114 116-193 (116-136, 116-111, 101-121 or concurrent)
804-123	Math with Business Application <b>OR</b>	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17-18</b>	<b>cr. 18</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 68-69**

**Short Term Training Certificate(s)**

- (TC-116-2) Human Resource Generalist, 15 Credits
- (TC-116-7) Leadership/Supervision, 12 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you've got a career goal in mind and have not been able to find just the right educational program to help you prepare for it, the Individualized Technical Studies program could be what you're looking for.

This program allows you to combine courses from two or more major areas of study into an Associate of Applied Science Degree that meets your career preparation goals. You begin by completing a program plan outlining your career objectives and the courses you'll need to meet those objectives.

This program is designed to focus on your needs and plans:

- Provides the flexibility to meet your educational needs based on your career goals
- Accepts that your goals cannot be achieved through enrollment in any single instructional program offered at CVTC, and allows you to create your own educational program
- Allows you to pursue the Associate of Applied Science Degree full- or part-time
- Works with employers to provide a flexible program of study to meet the educational needs of their employees

The Individualized Technical Studies program may be just what you need to help take your career to the next level.

## Admission Requirements

To be admitted to the first 32 credits of this program you must meet specific requirements:

- COMPASS pre-entry assessment
- Have a specific career objective around which to design a program
- Show that your proposed program is different from existing Wisconsin Technical College System offerings

Additional steps are required for you to continue beyond 32 credits:

- Approval of a complete academic plan of all courses required to meet the program career objective
- Individualized Technical Studies Committee approval

## Helpful Background

- Currently employed (preferred) or significant work experience to draw upon (up to 20 credits may be granted for approved work experience)

## Career Opportunities

- Jobs/positions that reflect your self-identified career goals

## Program Tips

### Portfolio Development Process Checklist

This checklist will support you in planning your Individualized Technical Studies Associate Degree Program. You will develop a portfolio to be presented to the Individualized Technical Studies

Committee. It is important that your portfolio be complete and self-explanatory. You must obtain approval of the Individualized Technical Committee prior to completion of 32 credits.

1. Contact Jerry Moldenhauer (Lead Academic Advisor/Counselor) at (715) 833-6346 or e-mail at: [jmoldenhauer@cvtc.edu](mailto:jmoldenhauer@cvtc.edu) to initiate your program plan.
2. In consultation with the Academic Advisor, begin the process of selecting your occupational advisor and academic advisor. The occupational advisor should be someone who works in, supervises, or is knowledgeable of the type of occupation you are preparing.
3. Prepare a Statement of Need explaining your need for an individualized program of study.
4. In consultation with your occupational advisor, complete your Career Outcome Statements.
5. In consultation with your occupational advisor, complete a Program Plan.
6. Submit your portfolio through the Academic Advisor to the Individualized Technical Studies Committee. Your portfolio must contain:
  - a. Career Outcome Statements
  - b. Statement of Need
  - c. Program Plan
7. Present your portfolio to the Individualized Technical Studies Committee.
8. Response from Individualized Technical Studies Committee.  
\_\_\_\_ Program Approved \_\_\_\_ Program Disapproved
9. Unless already enrolled, complete the CVTC application process.
10. Meet with Academic Advisor to discuss waiver of courses based on prior work experience, course work, or non-collegiate training.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b>First Term</b>			
	Elective		13	
	<b>Choose 6 credits from the following:</b>			
801-195	Written Communication	3	3	
801-196	Oral/Interpersonal Communication	3	3	
801-197	Technical Reporting	3	3	801-195 with a "C" or better
801-198	Speech	3	3	
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>19 cr.</b>	
	<b>Second Term</b>			
	Elective		13	
	<b>Choose 3 credits from the following</b>			
809-122	Intro to American Government		3	
809-128	Marriage & Family		3	
809-166	Intro to Ethics: Theory & Application		3	
809-172	Intro to Diversity Studies		3	
809-174	Social Problems		3	
809-195	Economics		3	
809-196	Intro to Sociology		3	
809-197	Contemporary American Society		3	
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>16 cr.</b>	
	<b>Third Term</b>			
	Elective		13	
	<b>Choose 3 credits from the following</b>			
809-159	Abnormal Psychology		3	
809-188	Developmental Psychology		3	
809-198	Intro to Psychology		3	
809-199	Psychology of Human Relations		3	
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>16 cr.</b>	
	<b>Fourth Term</b>			
	Elective		10	
	<b>Choose 3 credits from the following</b>			
804-107	College Mathematics		3	
804-113	College Technical Math 1A		3	
804-118	Intermediate Algebra with Applications		3	
804-123	Math with Business Applications		3	
804-133	Math & Logic		3	
806-134	General Chemistry		4	
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>13-14 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 64

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date.

10-623-1

## Description

The Industrial Engineering Technician program at CVTC is designed to support the regional food processing industry.

The program offers instruction for non-clinical laboratory workers with hands-on training. Students will perform a variety of laboratory and testing procedures using an array of equipment. The program also provides instruction on the design, operation, and support of production facilities with a focus on food safety and quality assurance. Scientific coursework includes biotechnology, microbiology, chemistry, food lab science, and nanoscience.

Technical training includes courses in:

- Food analysis and laboratory instrumentation
- Food regulations
- Food processes
- Hazard Analysis and Critical Control Points
- Working in clean and sterile environments

Additional support courses are offered in statistics, written communication, math, manufacturing processes, quality assurance, safety, and computer-aided design. In addition, the program offers training in leadership, sociology, psychology, and project management to help graduates prepare for their careers as engineering technicians or technologists.

The program is designed for workforce entry as Industrial Engineering Technicians in the food industry and has been aligned with four-year degree pathways to food science, applied science, engineering technology, and industrial management.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 Reading
  - 60 Writing
  - 35 Algebra

## Helpful Background

- High school courses in science and math are helpful, as are computer knowledge, an ability to work as a team member, and the use of logical problem solving techniques.
- Recommended preparation for high school students: algebra, biology, physics, chemistry – two semesters at high school level or one semester at post-secondary level
- Completing Transcribed Credit high school courses will ease the student's progress through the program

## Career Opportunities

- Food Laboratory Technician
- Food Production Technician
- Industrial Laboratory Technician
- Biological Laboratory Technician
- Quality Assurance Technician
- Research Technician

- Cleanroom Technician
- Microscope Operator

## Program Tips

### Suggested Certificate

#### Leadership Technical Certificate (TC-196-7)

No matter what your career, success depends on demonstrating good leadership skills in a very competitive workplace. This certificate will provide you with the skills and understanding necessary to become more effective in leadership positions in business, industry, government, and healthcare. Increase your knowledge in personal leadership, new management principles, ethics, and employee performance techniques. Courses in this certificate are offered at varying times and delivery methods to accommodate your needs. Please go to [www.cvtc.edu](http://www.cvtc.edu) to see all available certificates.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
606-185	Blueprint Reading	2	1	
623-108	Intro to Manufacturing Lab Science	4	3	Program students
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-115	College Technical Math 1	5	5	(See Prepared Learner Guide)
806-134	General Chemistry <b>OR</b>	5	4	(See Prepared Learner Guide)
806-245	Principles of General Chemistry 1	7	5	(See Liberal Arts Placement Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>19</b>	<b>16-17 cr.</b>	
<b>Second Term</b>				
103-102	Microsoft Office Suite	2	2	
635-118	Introduction to Biotechnology	4	3	Program students, 635-108
623-118	Food Processing Regulations	2	2	623-108
623-112	Manufacturing Food Processes	2	2	Program students, 623-108
806-130	Intro to Microbiology ( <i>1<sup>st</sup> 8 weeks</i> )	6	2	
806-115	Food Microbiology ( <i>2<sup>nd</sup> 8 weeks</i> )	6	2	806-130 or concurrent with a "C" or better
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>18</b>	<b>16 cr.</b>	
<b>Third Term (Summer)</b>				
623-114	Industry Practicum	216	3	Program students
<b>Total Semester Hrs./Week and Total Credits</b>		<b>216</b>	<b>3 cr.</b>	
<b>Fourth Term</b>				
623-116	Laboratory Electronics	5	3	623-108
635-103	Lab Science Instrumentation	3	2	623-108
635-105	Nanomaterials	4	3	623-108
635-108	Micro & Nano Fabrication	2	2	623-108
801-196	Oral/Interpersonal Communication	3	3	
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>20</b>	<b>16 cr.</b>	
<b>Fifth Term</b>				
623-110	Hazard Analysis and Critical Control Points	4	2	806-115
625-110	Manufacturing and Quality Assurance	3	3	804-189
625-160	Core Manufacturing Skills	2	2	Program students
635-150	Manufacturing Processes and Lab Science	3	2	635-103
809-198	Intro to Psychology	3	3	(See Prepared Learner Guide)
102-112	Principles of Management <b>OR</b>	3	3	
102-188	Project Management <b>OR</b>			
606-161	CAD, Basic			
<b>Total Semester Hrs./Week and Total Credits</b>		<b>15</b>	<b>15 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 66

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

*Offered in Eau Claire; operates on a year-round basis with multiple entry dates in August, October, January, March, and June. This is a 40 week program.*

**31-462-2**

## Description

If you have an interest in working with technology, enjoy troubleshooting systems, and take pride in craftsmanship, the Industrial Mechanic program could be a good match for you.

This program will prepare you to install, maintain, operate, diagnose, and repair automated equipment used in manufacturing industries. Your career could take you to facilities with automated systems that create the products we use every day.

In just 40 weeks, the Industrial Mechanics program provides you with the skills you need in essential career areas:

- Mechanics
- Electrical
- HVAC
- Pneumatics
- Troubleshooting
- Welding
- Hydraulics
- Programmable logic controllers (PLCs)
- Maintenance

As a multi-skilled industrial maintenance technician, you will become proficient in areas that greatly enhance your employment opportunities:

- Laser alignment
- Thermal and vibration analysis
- Mechanical equipment installation, disassembly, and assembly
- Pneumatics and hydraulics
- Conveyance systems
- Machine tool
- Automated machine and electrical troubleshooting
- Heating, ventilating, and air conditioning systems
- Welding
- Preventative maintenance
- Programmable logic controllers (PLCs)

According to the Department of Labor, graduates with broad skills in machine repair and maintenance should have favorable job prospects. This could be the program you've been searching for.

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Mechanical aptitude
- Basic math and/or algebra
- Good reading comprehension skills
- Problem-solving skills
- Enjoyment in making things better
- Curiosity about how things work
- Good physical conditioning and agility

## Career Opportunities

- Industrial Maintenance Technician
- Industrial Mechanic

- Manufacturing Maintenance Mechanic
- Multi-skilled Maintenance Mechanic
- Repair Technician
- Lab Technician
- Facilities Maintenance Mechanic
- Technical Salesperson

## Program Tips

### Summer Session

This 40-week program operates on a year-round basis; therefore, summer attendance is required regardless of your entry point into the program. The start dates are June, August, October, January and March. Regardless of start dates, the first and second semesters are 16 weeks long. March and June starts simply have their 16-week blocks spanning over the summer, or into the fall.

### Labs

This program is designed to be structured as self-paced and students are required to attend all scheduled hours. Student schedules reflect the number of required hours.

### Additional Certifications

- By successfully completing HVAC Concepts (601-100) and Refrigeration Systems (601-101), you are eligible to take the EPA Exam for Refrigerant Handling Licenses.
- Costs associated with these exams are the responsibility of the student.

### Additional Course Recommendation

Computer Success (106-163) is recommended for students with little or no computer experience.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
419-116	Basic Hydraulics	6	3	Program student or instructor approval
419-117	Basic Pneumatics	6	3	Program student or instructor approval
442-120	Related Welding- Industrial Mechanic	4	2	Program student or instructor approval
462-110	Mechanical Concepts	8	4	Program student or instructor approval
620-130	Industrial Electricity Concepts	6	3	Program student or instructor approval
462-115	Industrial PC Applications	4	2	Program student or instructor approval
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Second Term</b>				
420-125	Related Machine Tool Concepts	4	2	Program student
462-120	Centrifugal Pumps & Alignment	8	4	Program student, 419-116, 419-117, 462-110, 620-130 or instructor approval
462-121	Repair Automated Manufacturing Equipment	8	4	Program student, 419-116, 419-117, 462-110, 620-130 or instructor approval
462-122	Preventative and Periodic Maintenance	4	2	Program student, 419-116, 419-117, 462-110, 620-130 or instructor approval
462-123	Troubleshooting PLC Systems	6	3	Program student, 419-116, 419-117, 462-110, 620-130 or instructor approval
462-124	Industrial Mechanics Documentation	4	2	Program student, 419-116, 419-117, 462-110, 620-130 or instructor approval
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Third Term (Summer)</b>				
419-118	Pneumatic System Operations	8	2	419-117 or instructor approval
462-130	Mechanical Print Reading and Schematics	4	1	
462-131	Machine Troubleshooting and Repair, Advanced	8	2	462-120, 462-121, 462-122, 462-123, 462-124 or instructor approval
601-100	Basic HVAC Concepts <b>OR</b>	8	2	Clairemont campus, not offered in summer
601-101	Refrigeration Systems <b>OR</b>			Clairemont campus, not offered in summer
419-102	Hydraulic System Operations			419-116 or instructor approval
<b>Total Semester Hrs./Week and Total Credits</b>			<b>7cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 41

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you enjoy problem-solving and working with the latest computer and networking technology, a career in the field of Information Technology is for you. The Information Technology-Network Specialist program prepares you to install, configure, and administer the networking equipment and network services that are common in LAN and WAN environments.

The program provides training on important computer and networking technologies. You'll learn to

- Install and manage network operating systems, including Microsoft Windows, Unix, and Linux.
- Install and troubleshoot client and server computer hardware and software.
- Install and configure thin clients, virtual PCs, and servers.
- Manage various types of directory services.
- Implement network and user security.
- Monitor network event logs for problem resolution.
- Install, configure, and troubleshoot network hardware.

The cost of the following professional certification exams is included in the course fees for the corresponding courses:

Professional Certification Exam	IT-NS course
CompTIA A+	150-170 Computer Maint & Supp
CompTIA Network+	150-181 Advanced NOS 2
CompTIA Security+	150-184 Network Security

Additionally, after completing the appropriate courses, students may qualify to take the following professional certification exams:

- CISA (Certified Information Systems Auditor)
- CWNA (Certified Wireless Network Administrator)
- CCNA (Cisco Certified Network Associate)
- MCTS (Microsoft Certified Technology Specialist)

Career opportunities continue to grow dramatically, both within the district and nationally. This could be the training you need for a rewarding career!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
  - 60 on Writing

## Helpful Background

- Mathematics
- Electronics
- Computer programming or building
- Interpersonal communication
- Critical thinking skills
- Problem-solving ability

## Career Opportunities

- Network Specialist: Designs, installs, and maintains computer networks
- Network Administrator: Designs, installs, and maintains network operating systems

- PC/Desktop Support Specialist: Provides on-site hardware and software support to end-users in corporate environments
- IT Field Technician: Provides PC and networking support to remote locations and customers
- Helpdesk Support Technician: Provides PC and networking support to end-users via telephone

## Program Tips

Before beginning this program, you should have experience with the basic use of current Windows operating systems, word processing, spreadsheet, database, and presentation software. If you are not comfortable using the above-mentioned software, you should take 103-102, Microsoft Office Suite before starting the program or during your semester. You should also be able to type at least 20 words per minute.

### Using Your Home Computer

You may be able to use your home computer to do assignments if you own the current version of the software used in class. Check with the academic advisor or program instructors for more information. Some courses and/or assignments can be completed from your home computer with Internet access.

### Internship Credit

The IT-Network Specialist Program offers a two credit IT Networking Internship in the third semester of the program. Students, who are working in an industry-related job at the start of their third semester in the program, are eligible to enroll in the internship. IT Networking Internship can be taken in lieu of the third semester course, IT Management Concepts. Prior approval of the IT-Network Specialist department chair is required before registration for the internship. It is the student's responsibility to locate the place of the internship. The industry-related job must meet the criteria of the internship.

### Distance Learning

Some courses are available online. Check our website [www.cvtc.edu](http://www.cvtc.edu) for distance learning opportunities.

Attendance at all lecture and lab class sessions is ESSENTIAL to your success.

CVTC is a Pearson VUE Test Center. Pearson VUE delivers exams through the world's most comprehensive and secure network of test centers in 165 countries.

### Program Articulation

The Information Technology-Network Specialist (IT-NS) Program has joined with similar programs of the Wisconsin Technical College System to enter into an articulation agreement with UW-Stout's Bachelor of Science in Information and Communications Technologies (BS-ICT) Program. Under this agreement, the BS-ICT program will accept transfer of approximately 60 credits from CVTC's IT-NS program. This may present a perfect opportunity for those students who wish to continue their education by pursuing a Bachelor of Science degree after receiving an AAS from CVTC.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
150-123	Information Technology Networking Concepts	4	3	Program student
150-120	Network Diagramming	2	1	Program student
150-150	Cisco 1: Network Fundamentals	4	3	Program student
150-134	Network Infrastructure Concepts	3	2	Program student
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-133	Math and Logic	4	3	(See Prepared Learner Guide)
809-166	Introduction to Ethics: Theory and Application	3	3	(See Prepared Learner Guide)
<b>Total Semester Hours/Week &amp; Total Credits</b>		<b>23</b>	<b>18 cr.</b>	
<b>Second Term</b>				
150-160	Network Directory Services	4	3	Program student, 150-123, 150-150
150-175	Unix System Administration	4	3	150-123, 150-150
150-165	Microsoft Windows Network Admin.	4	3	150-123, 150-150
150-151	Cisco 2: Routing Protocols and Concepts	4	3	150-150
150-143	Computer Hardware	6	4	150-123, 150-134
<b>Total Semester Hours/Week &amp; Total Credits</b>		<b>22</b>	<b>16 cr.</b>	
<b>Third Term</b>				
150-155	IT Management Concepts <b>OR</b>	3	2	150-120, 150-165
150-182	Network Specialist Internship			Program student, instructor approval
150-153	Cisco 3: LAN Switching and Wireless	3	2	150-151
150-180	Advanced Network Operating Systems 1	4	3	150-151, 150-162, 150-165, 150-175
150-183	Wireless Networking	3	2	150-151 (or 605-109 for Electromechanical Technology Program students)
150-170	Computer Maintenance and Support	5	3	150-143
801-196	Oral/Interpersonal Communication <b>OR</b>	3	3	
801-197	Technical Reporting			801-195 with a minimum grade of C
809-199	Psychology of Human Relations <b>OR</b>	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology			(See Prepared Learner Guide)
<b>Total Semester Hours/Week &amp; Total Credits.</b>		<b>23</b>	<b>18 cr.</b>	
<b>Fourth Term</b>				
150-121	Network Design, Installation and Troubleshooting	4	3	150-153, 150-180
150-154	Cisco 4: Accessing the WAN	3	2	150-153
150-181	Advanced Network Operating Systems 2	4	3	150-153, 150-180
150-184	Network Security	3	2	150-153, 150-180
809-195	Economics	3	3	(See Prepared Learner Guide)
809-196	Sociology, Intro. to <b>OR</b>	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies <b>OR</b>			(See Prepared Learner Guide)
809-174	Social Problems			(See Prepared Learner Guide)
<b>Total Semester Hours/Week &amp; Total Credits</b>		<b>20</b>	<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 68**

## Short-Term Training Certificate(s)

- (TC-150-1) Cisco Networking Academy, 10 Credits
- (TC-150-2) IT Network Support Associate, 22 Credits
- (TC-150-3) Network Hardware Support Specialist, 12 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August and January entry dates

10-152-1

## Description

If you enjoy working with computers and welcome the chance to try new applications and programs, the Information Technology-Programmer/Analyst program could be a good match for you. During your program, you will

- develop dynamic Web and mobile applications using state-of-the-art tools: XHTML/CSS, ASP.NET, Java, JSP, JavaScript, XML/AJAX, Flash, and PHP.
- manage data and databases using SQL, MS Access, SQL Server, and MySQL.
- design and write computer programs using Java, C++, and Visual Basic.Net.
- develop 3D simulation/games using latest game engines and 3D modeling software.
- analyze business processes and apply solutions with Agile software development and industry-standard reporting tools such as SSRS and Crystal.
- explore operating systems and platforms, including UNIX, Windows, and emerging mobile technologies.
- develop valuable workplace skills: time management, collaboration, communication, critical thinking, and environmental awareness.

The programmer/analyst track prepares you for a career in Web programming and application software development. The simulation track prepares you for a career developing 2D and 3D multimedia, simulation, games, and Web application development.

Interest in computer simulation and gaming is at an all-time high, and new computer applications are always in development. The Information Technology – Programmer/Analyst program could be what you need to turn your interest in computers into a lifelong career. Graduates of this program also have the opportunity to transfer their credits to selected four-year institutions.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
  - 60 Writing

## Helpful Background

- Math and algebra
- Business courses
- Communication skills
- Understanding of Internet technologies
- Computer programming
- Good reading comprehension

## Career Opportunities

- Web Programmer/Developer
- Webmaster
- Applications Programmer/Analyst
- Software Support Technician
- Systems Analyst

- Database Application Developer
- Help Desk Analyst
- Simulation Programmer
- Software Quality Assurance

## Program Tips

Before beginning this program you must have experience using basic Windows, word processing, spreadsheet, database, and presentation software. If you are not comfortable using the above mentioned software, you should take 103-102 Microsoft Office Suite (2 credits, which can count for elective credit) before starting the program or during your first semester. You must also be able to type at least 20 words per minute.

### Available Certificates

Consider completing one of our computer certificates if you are interested in taking classes but aren't prepared to enroll in a full program. Each certificate has courses which could also fulfill credit requirements for the Information Technology – Programmer/Analyst program.

### Course Options

To allow for greatest flexibility, any ONE of the following courses can be substituted for Introduction to Sociology:

- 809-166 Introduction to Ethics: Theory and Application
- 809-172 Intro to Diversity Studies
- 809-197 Contemporary American Society

Students planning to transfer to a 4-year institution in the future should consider the following course substitutions:

- Instead of 804-118 Intermediate Algebra w Apps consider taking one of the following: 804-224 College Algebra or 804-230 Statistics
- Instead of 809-199 Psychology of Human Relations, consider taking one of the following: 809-198 Introduction to Psychology or 809-251 General Psychology.
- Instead of 801-195 Written Communications, consider taking: 801-219 English Composition I

### Selecting an Emphasis

The program offers two emphases – Programmer and Simulation. The majority of courses are the same in the two emphases. The following courses are different between the two emphases:

Programmer Emphasis students take:

- 152-136 Database 2
- 152-109 Web Multimedia OR
- 152-160 Object-Oriented C Programming
- 152-105 .NET ASP
- 152-126 Agile Programming w/ Design Patterns

Simulation Emphasis students take:

- 152-161 3D Modeling 1
- 152-159 Web Multimedia
- 152-162 3D Game/Sim Programming
- 152-168 Multimedia Prog/Design

# Program Requirements

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
152-102	Information Technology-Programmer Analyst Exploration <i>[1<sup>st</sup> 8 weeks]</i>	4	1	
152-106	Operating Systems <i>[1<sup>st</sup> 8 weeks]</i>	6	2	Program student
152-107	Web 1 - HTML and CSS <i>[1<sup>st</sup> 8 weeks]</i>	8	3	Program student
152-101	Programming Fundamentals-JavaScript <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	Program student
152-132	Database 1 <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	Program student
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Wk. &amp; Total Credits</b>		<b>20</b>	<b>15 cr.</b>	
<b>Second Term</b>				
152-103	.NET Application Development <i>[1<sup>st</sup> 8 weeks]</i>	8	3	152-101
152-136	Database 2 <i>[1<sup>st</sup> 8 weeks]</i> OR	8	3	152-132
152-161	3D Modeling 1 <i>[1<sup>st</sup> 8 weeks]</i>	8	3	
152-108	Web 2 - JavaScript <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	152-101, 152-107
152-142	O O Analysis & Design-Java <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	152-101
801-136	English Composition 1 OR	3	3	(See Prepared Learner Guide)
801-195	Written Communication			(See Prepared Learner Guide)
804-133	Math and Logic	4	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Wk. &amp; Total Credits</b>		<b>23</b>	<b>18 cr.</b>	
<b>Third Term</b>				
152-129	Java Web Programming <i>[1<sup>st</sup> 8 weeks]</i>	8	3	152-142
152-159	Web Multimedia <i>[1<sup>st</sup> 8 weeks]</i> OR	8	3	152-101, 152-107
152-160	Object-Oriented C Programming <i>[1<sup>st</sup> 8 weeks]</i>			152-101
152-105	.NET – ASP <i>[2<sup>nd</sup> 8 weeks]</i> OR	8	3	152-103
152-162	3D Game/Simulation Programming <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	152-101, (152-161 or concurrent)
152-164	Database-Driven Web Design/Dev <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	152-108, (152-132 or concurrent)
801-196	Oral/Interpersonal Communication	3	3	
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Wk. &amp; Total Credits</b>		<b>22</b>	<b>18 cr.</b>	
<b>Fourth Term</b>				
152-112	Business Intelligence <i>[1<sup>st</sup> 8 weeks]</i>	8	3	152-132, (152-103 or concurrent)
152-151	Mobile Application Development <i>[1<sup>st</sup> 8 weeks]</i>	8	3	152-142
152-126	Agile Programming with Design Patterns <i>[2<sup>nd</sup> 8 weeks]</i>	8	3	152-129
152-182	Programmer/Analyst Internship (128 hrs.) OR		2	Program student, 152-107
152-166	IT-P/A Capstone <i>[2<sup>nd</sup> 8 weeks]</i>			Program or Certificate student, (152-162 and 152-161) or 152-108
801-197	Technical Reporting	3	3	801-195 with a minimum grade of C, (See Prepared Learner Guide)
804-118	Intermediate Algebra w/ Apps OR	4	4	(See Prepared Learner Guide)
804-189	Introductory Statistics	3	3	804-110 with a minimum grade of C, (See Prepared Learner Guide)
<b>Total Term Hrs./Wk. &amp; Total Credits</b>		<b>18</b>	<b>17 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 68

## Short-Term Training Certificate(s)

- (TC-152-5) 3D Game/Simulation Programming 1, 12 Credits
- (TC-152-6) Java, 12 Credits
- (TC-152-7) .NET Application Development, 14 Credits
- (TC-152-8) Web Development 1, 9 Credits
- (TC-152-9) Web Development 2, 8 Credits
- (TC-152-10) Web Multimedia, 9 Credits
- (TC-152-11) Database Analysis & Development, 8 Credits
- (TC-152-13) 3D Game/Simulation Programming 2, 6 Credits
- (TC-152-14) Mobile Application Development, 11 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If this is how you would describe yourself, the Landscape, Plant & Turf Management-Horticulture program may be what you need to begin a rewarding career:

- Interested in plants and/or landscaping
- Enjoy working outdoors
- Prefer a hands-on career field
- Have an eye for detail
- Learn quickly

You'll be provided with well-rounded horticultural training, real-life experience, and the business skills necessary for a life-long career owning, managing, or working in a horticulture business in an environmentally sustainable and financially profitable manner. The program provides you with a broad background in landscape and turf management, plant selection, certified pesticide application training, working with diverse populations, and environmentally sustainable management practices.

This is a broad-based program, and you will receive training in all core career components:

- Landscape Management
- Golf Course & Athletic Field Management
- Greenhouse Operation and Management
- Interior Landscaping
- Vegetable & Fruit Production

Communities, businesses, golf courses, and institutions such as universities recognize the importance of good landscaping and are expected to continue to provide good employment opportunities for landscape, plant, and turf management specialists. More and more homeowners are contracting with outside firms to maintain their landscaping. Interest in locally-produced foods is growing. All of these trends point to good career opportunities. You have options!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Agriculture
- Science
- Basic computer skills
- Economics

## Career Opportunities

- Landscape Installer
- Landscape Design/Sales
- Landscape Crew Member
- Landscape Supply Sales
- Native Prairie Nursery Crew Member
- Plant Health Care Technician
- Grounds Manager
- Grounds Crew Member
- Garden Center Manager
- Garden Center Customer Service

- Nursery Production
- Greenhouse Supervisor
- Assistant Greenhouse Grower
- Pest Control Specialist
- Golf Course Maintenance Assistant
- Golf Course Assistant Superintendent
- Lawn Care Equipment Operator
- Turf Technician
- Athletic Field Manager
- Grounds Crew Member
- Property Care Maintenance
- Irrigation Technician
- Lead Gardener
- Garden Maintenance
- Interior Plantscaper
- Vegetable and Fruit Grower
- Vineyard Maintenance
- Community-Supported Agriculture (CSA) crew member

## Program Tips

### Suggested Associate Degree Courses Outside of Program

- Job-Search Communication 801-175
- Fundamentals of Surveying 607-130 (2 credits)
- CAD, Basic 606-161 (3 credits)
- Applied Biotechnology 007-111 (2 credits)
- Applied Biotechnology 007-111 (2 credits)
- Plant Science 006-160 (3 credits, 4 hours)

### Computer Skills

If you lack computer skills, you may want to consider taking Microsoft Office Suite 103-102 (2 credits, 2 hours).

### Class Tips

• Pesticide and Fertilizer Applications 001-113 (3 credits, 4 hours)  
Students will be required to take the Commercial Pesticide Applicator Certification exam as a part of this course. (It is strongly recommended that you take College Mathematics 804-107 and Chemistry 806-134 before taking this class)

• CDL Training 458-320 - Not required or counted towards graduation. This course allows a student to earn a Wisconsin Class A CDL.

• General Chemistry 806-134 (4 credits, 5 hours) is a requirement for graduation. In lieu of this requirement, you may take 836-133 Prep for Basic Chemistry and 4 credits of Associate Degree course work. Please see an academic advisor for further advisement.

### Certifications Embedded in Program

Commercial Pesticide Applicator Certification

# Program Requirements

Course Number	Course Title	Hrs./Wk.	Cr.	Prerequisite(s)/ Comments
<b>First Term</b>				
001-100	Introduction to Horticulture (T, L)	4	3	Fall only, Program or pre-program student
001-116	Landscape Plants (T, L)	4	3	Fall only, Program or pre-program student
001-120	Horticulture Soils (T, L)	4	3	Fall only, Program or pre-program student
102-131	Introduction to Business (T)	3	3	
804-107	College Mathematics (T, L)	3	3	(See Prepared Learner Guide)
	<b>Total Sem. Hrs./Wk. and Total Cr.</b>	<b>18</b>	<b>15 cr</b>	
<b>Second Term</b>				
001-125	Horticulture Equipment & Safety (T) [ <i>1<sup>st</sup> 8 weeks</i> ]	4	2	Spring only, Program or pre-program student
001-108	Business Apps for the Green Industry (T) [ <i>2<sup>nd</sup> 8 weeks</i> ]	4	2	Spring only, Program or pre-program student
001-103	Turf Management and Irrigation (T, L)	4	2	Spring only, Program or pre-program student
806-134	General Chemistry (T, L)	5	4	836-133 with a "C" or better. (See Prepared Learner Guide)
809-172	Intro to Diversity Studies (T)	3	3	(See Prepared Learner Guide)
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
	<b>Total Sem. Hrs./Wk. and Total Cr.</b>	<b>18</b>	<b>16 cr</b>	
<b>Third Term (Summer)</b>				
001-109	Horticulture Internship ( <i>weeks 1-8</i> )	36	3	Program student; 001-100
	<b>Total Sem. Hrs./Wk. and Total Cr.</b>	<b>36</b>	<b>3 cr</b>	
<b>Fourth Term</b>				
001-102	Landscape Design and Construction (L)	4	2	Fall only, Program or pre-program student
001-110	Integrated Plant/Pest Management (T, L)	3	2	Fall only, Program or pre-program student
001-111	Sustainable Land Use Management (T, L)	4	3	Fall only, Program or pre-program student
001-112	Interior Plants and Landscaping (T, L)	3	2	Fall only, Program or pre-program student
809-195	Economics (T)	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations (T) <b>OR</b>			(See Prepared Learner Guide)
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	<b>Total Sem. Hrs./Wk. and Total Cr.</b>	<b>20</b>	<b>15 cr</b>	
<b>Fifth Term</b>				
001-104	Greenhouse Management (L)	4	2	Spring only, Program or pre-program student
001-115	Vegetable and Fruit Production (L)	4	2	Spring only, Program or pre-program student
001-113	Pesticide and Fertilizer Applications (T, L)	4	3	Spring only, Program or pre-program student
001-114	Entrepreneurship for the Green Industry (T) [ <i>2<sup>nd</sup> 8wks</i> ]	4	2	Spring only, Program or pre-program student
802-102	Spanish for the Green Industry (T) [ <i>1<sup>st</sup> 8wks</i> ]	4	2	
196-191	Supervision (T)	6	3	
801-196	Oral/Interpersonal Communication (T)	3	3	
	<b>Total Sem. Hrs./Wk. and Total Cr.</b>	<b>25</b>	<b>17 cr</b>	
458-320	CDL License Training	2	1	<b>Does not count toward graduation requirements</b>

MINIMUM PROGRAM CREDITS REQUIRED = 66

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you have a wide variety of academic interests or if you are currently uncertain about a specific academic program in which to specialize, the Liberal Arts program may be for you.

Courses in the Liberal Arts program serve two purposes: (1) they may be used toward an Associate of Science degree in Liberal Arts at CVTC; and (2) they may transfer to a university to be included in a baccalaureate (4-year) degree from that university. CVTC's three principal partners in the Liberal Arts program are the University of Wisconsin-Eau Claire, the University of Wisconsin-River Falls, and the University of Wisconsin-Stout.

For students who have not chosen a major field of post-secondary study, enrolling in the Liberal Arts program will offer a variety of general education courses that may prove helpful in that selection process while, at the same time, fulfilling many requirements of a university baccalaureate program.

Students who have chosen a major field of post-secondary study should contact the university to which they may transfer to verify how each of these general education courses will fit into the chosen program.

CVTC counselors are available to assist in the course selection process to assure that selected courses will meet the minimum credit requirements of each area of the Liberal Arts program while also achieving the degree requirements of a specific university baccalaureate program.

## Admission Requirements

### Entrance Assessment

An Associate Degree or higher may be used as a substitution for an Entrance Exam (transcript required).

COMPASS Reading: 80 (only used for course placement)  
COMPASS Writing: 69 (only used for course placement)  
COMPASS Algebra: 39 (only used for course placement)  
ACT Composite Score: 18 or higher

**Admission Process Complete** Once the above items have been completed, you will be considered for enrollment based on current openings in the program.

Liberal Arts Tuition fees apply.

## Helpful Background

- College prep course of study in high school including two years of math, English, and social studies
- Strong interest in preparing for the rigors of university-level academics
- Good oral and written communication skills
- Strong reading and problem-solving skills
- Basic computer knowledge (required to complete class assignments)

## Program Tips

### Demanding Course Work

Students should be prepared for general education course work that is more challenging than general education courses which support other associate degree and diploma programs.

### Computer Skills

Basic computer knowledge is required to complete class assignments.

### Delivery Formats

In addition to face to face, some courses are available in hybrid, online, and Web Conferencing formats. These courses are offered via a web-based meeting format at a specific scheduled time.

### Transferring Credits

To find which Liberal Arts courses will transfer to a public postsecondary institution in Wisconsin, go to the Transfer Information System at <http://tis.uwsa.edu/>. The Transfer Information System does not include private colleges or out-of-state institutions.

If you plan to transfer to a specific four-year college, it is important you contact that university to find out when you should seek admission and to verify credits will transfer to your chosen major. You should also maintain contact, given that program requirements are subject to change.

### Completing the Degree

The Liberal Arts – Associate of Science degree at CVTC is a collaborative degree with UW-Eau Claire, UW-River Falls and UW-Stout. Approximately two-thirds of course work is completed at CVTC, with the remaining being completed at a partner site. Please see an academic advisor for advisement.

In electing to pursue a Liberal Arts – Associate of Science degree it is beneficial to “think through” what baccalaureate degree you may be interested in pursuing. Exploring different majors via college websites, talking to others who know your interests and aptitudes as well as considering what really excites you, will help when you begin to select courses for registration at CVTC. We encourage you to spend some time thinking about the major you may elect prior to registration.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
804-224	College Algebra	4	4	See Liberal Arts Placement Guide
801-219	English Composition I	3	3	See Liberal Arts Placement Guide
806-201	Principles of Biology	6	4	See Liberal Arts Placement Guide
	*Social Science Selectives	6	6	
	<b>Total Semester Hrs./Week and Total Credits</b>	<b>19 hrs.</b>	<b>17 cr.</b>	
<b>Second Term</b>				
801-223	English Composition 2	3	3	801-219
810-201	Fundamentals of Speech	3	3	
804-228	Plane Trigonometry	3	3	See Liberal Arts Placement Guide
806-245	Principles of General Chemistry 1 <b>OR</b>	7	5	See Liberal Arts Placement Guide
806-276	Principles of General Physics 1	6	6	See Liberal Arts Placement Guide
	<b>Total Semester Hrs./Week and Total Credits</b>	<b>15-16 hrs.</b>	<b>14 cr.</b>	
<b>Third Term</b>				
804-236	Calculus & Analytic Geometry 1	5	5	804-224 and 804-228 or equivalent <b>OR</b> 804-224 and consent of instructor with a minimum grade of C
801-239	Contemporary American Literature	3	3	801-219 or 801-223 or 801-195 with a minimum grade of C
	*Math or Science Selective	5-7	4-5	
	(**6-7 University credits)	(6-7)	(6-7)	
	<b>Total Semester Hrs./Week and Total Credits</b>	<b>19-22 hrs.</b>	<b>18-20 cr.</b>	
<b>Fourth Term</b>				
	(**15 University credits)		(15)	
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>15 cr.</b>	
<b>*Suggested Selectives:</b>				
<b>Social Science:</b>				
803-227	American Government	3	3	See Liberal Arts Placement Guide
809-251	General Psychology	3	3	See Liberal Arts Placement Guide
809-271	Introductory Sociology	3	3	See Liberal Arts Placement Guide
809-291	Principles of Econ-Microeconomics	3	3	See Liberal Arts Placement Guide
<b>Math:</b>				
804-230	Statistics	4	4	See Liberal Arts Placement Guide
804-240	Calculus & Analytic Geometry 2	5	5	804-236 with a minimum grade of C
<b>Science:</b>				
806-207	Anatomy & Physiology 1	5	4	See Liberal Arts Placement Guide
806-249	Principles of General Chemistry 2	7	5	806-245 with a minimum grade of C
806-280	General Physics 2	6	4	806-276 with a minimum grade of C
<b><i>The required number of Liberal Arts credits earned through CVTC is 40</i></b>				
**Courses taken from a Wisconsin University in the categories shown below will fulfill the remaining requirements for earning the Liberal Arts Associate of Science Degree at Chippewa Valley Technical College				
<b>Course Categories</b>			<b>Credits</b>	
Humanities			6	
Foreign Languages			4	
Diversity/Ethnic Studies			3	
Health and Wellness			2	
Electives			6	

**MINIMUM PROGRAM CREDITS REQUIRED =64**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire; August, October, January, March, and June •  
4 days/week (Monday-Thursday) a.m. or p.m. (p.m. schedule 11 a.m.–7 p.m.)

32-420-5

## Description

If you are a hands-on person with good mechanical skills who enjoys building or crafting items, the Machine Tooling Technics program could be a good match for you.

This program offers training for employment in mold making, Computer Numerical Control (CNC) Programming, CNC operation, and quality-control inspection. You'll work on state-of-the-art equipment and will gain real-world experience that can be used in today's high-tech manufacturing facilities.

The program is a face-to-face lab-based program combined with online computer-based learning.

You will learn

- how to operate industrial size manual machine tools, engine lathes, milling machines, grinding machines, and drill presses.
- the skill to hold precision tolerances with machine tools.
- the processes of chip removal and material forming.
- the operation and setup of industrial computerized machine tools, milling machines, machining center, and turning centers.
- CAD/CAM computer-aided design/computer-aided machining to manufacture parts.

This is the program for students seeking interesting and challenging work in a clean, high-tech work environment; job stability; and a career that rewards growth and experience. To get an idea if this is the program you've been looking for, contact the program director at 715-874-4642 or 715-874-4640 to schedule a tour of the facilities.

## Admission Requirements

- COMPASS® pre-entry assessment  
70 on Reading  
35 on Pre-Algebra

## Helpful Background

- General mathematics
- Geometry
- Computers
- Visualization skills
- Mechanical skills
- Communication skills
- Problem-solving ability

## Career Opportunities

- Machine Apprentice
- Manual Machinist
- CNC Machine Tool Operator
- CNC Set-Up Machinist
- CNC Machine Tool Programmer
- Mold-Making Apprentice
- Patternmaker
- Machine Shop Supervisor
- Machine Shop Owner

## Program Tips

### Testing your interest in Machine Tooling

If you are unsure of your interest/ability in this field, consider taking an introductory course. Options include: 420-346 Related Machine Tool Concepts (2 credits) or 420-347 Related Machine Tool (2 credits).

### Schedule

Classes run Monday through Thursday with a choice of daytime or evening tracks. Typical daytime track classes run 7 a.m. until 3 p.m., and typical evening track classes meet 11 a.m. to 7 p.m. Technical seminars and other advanced training opportunities will be offered with demand on Fridays.

### Labs

This program requires students to attend all scheduled hours. Along with this is an online component requiring students to have basic computer literacy skills. Students who have little or no computer skills can get help by contacting Academic Services at 715-833-6201. Another option is to enroll in a 2 credit course; 103-106 Computer Success with Windows XP.

### Part-time Students

Part-time students may run into difficulty with normal progression through this program. See the academic advisor for guidance on part-time attendance.

### Program Completion

This program operates on a year-round basis; therefore, summer session attendance is required. Interrupting your program may result in a wait for re-entry. Re-entry will be on a space available basis. Any adjustment in your schedule at any time requires that you contact your academic advisor at 1-800-547-2882, ext. 6346, or 715-833-6346.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
420-300	Machine Shop Theory	2	1	Program student
420-321	Manual Turning Processes	10	5	Program student; Co-requisite 420-322
420-322	Manual Milling Processes	10	5	Program student; Co-requisite 420-321
804-361	Math 10 ( <i>1<sup>st</sup> 8 weeks</i> )	8	2	
421-385	Machine Trades Blueprint Reading ( <i>2<sup>nd</sup> 8 weeks</i> )	8	2	Program student
420-373	Precision Measurement	2	1	Program student
<b>Total Semester Hrs./Week and Total Credits</b>		<b>28</b>	<b>16 cr.</b>	
<b>Second Term</b>				
420-341	Materials for Machinists	4	2	420-321, 420-322
420-325	Basic CNC Mill Programming	20	5	Program student, 420-321, 420-322; Co-requisite 420-326
420-326	Advanced CNC Mill & Grinding Processes	20	5	420-321, 420-322; Co-requisite 420-325
420-380	2-D CAM	4	2	420-325 or concurrent
804-362	Math 20	4	2	804-361
<b>Total Semester Hrs./Week and Total Credits</b>		<b>32</b>	<b>16 cr.</b>	
<b>Third Term</b>				
420-330	Basic CNC Lathe Programming	20	5	420-321, 420-322; Co-requisite 420-331
420-331	Advanced CNC Turning Processes	20	5	Program student, 420-321, 420-322; Co-requisite 420-330
420-367	3-D CAM	6	3	420-380
420-353	CAM for CNC Lathe	4	2	420-380; Co-requisite 420-330
420-379	Job Skills for Mfg <b>OR</b>	3	1	Program student
801-351	Applied Communication	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>33</b>	<b>16-17 cr.</b>	
<b>Fourth Term</b>				
420-351	Advanced CAD/CAM	6	3	Program student, 420-637
420-352	Advanced Technologies in Manufacturing	20	5	420-326, 420-331, 420-353, 420-367; Co-requisite 420-355
420-355	Competitive Machining Techniques	20	5	Program student, 420-326, 420-331; Co-requisite 420-352
420-382	Swiss 1	6	3	Program & Certificate student; 420-326, 420-331, 420-367
<b>Total Semester Hrs./Week and Total Credits</b>		<b>32</b>	<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 64

## Short-Term Training Certificate(s)

- (TC-420-1) Advanced Machining – Swiss, 9 Credits
- (TC-420-2) CNC Machining Retraining, 12 Credits
- (TC-606-2) CAD Operator, 17 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Manufacturing Engineering Technologist program prepares graduates to work in the manufacturing sector. They will assist engineering and management in the design and development of new products and in the improvement of production processes.

The program provides instruction for skilled production workers with hands-on training to

- apply principles, techniques, procedures, and equipment to the design and production of various goods and services.
- design and produce 2D and 3D components and assemblies.
- apply engineering economics and management principles to support strategic planning, resource allocation, leadership technique, production methods, and coordination of people and resources.
- analyze and troubleshoot manufacturing processes and systems for safety and quality.
- monitor production processes with an emphasis on safety and quality assurance.

Coursework includes communications, technical college math, chemistry, physics, and solid modeling design. You will design, analyze and recommend product and process improvements for manufactured industrial and consumer products. You will use measurement instrumentation, explore manufacturing processes, statistics, written communication, math, quality assurance, safety, and computer aided design. In addition, the program offers training in leadership, sociology, psychology, and project management to help graduates prepare for their careers in manufacturing engineering technology.

This program has been designed for transferability and includes transcripted courses to allow credit transfer from participating high schools and is aligned with articulations to four-year degree programs.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 60 on Writing
  - 35 on Algebra

## Helpful Background

- High school courses in science and math are very helpful, as are computer knowledge, an ability to work as a team member, and the use of logical problem solving techniques.
- Recommended preparation for high school students: algebra, biology, biotechnology, physics, chemistry – two semesters at high school level or one semester at post-secondary level.
- Completing transcripted high school courses will ease the student's progress through the program.

## Career Opportunities

- Manufacturing Engineering Technician
- Engineering Technician
- Engineering Assistant
- CAD/CAM Technician
- CAD Operator/ Drafter

- Design Technician
- Quality Assurance Technician
- Detailer/Estimator
- Research Technician
- Process Technician
- Materials Engineering Technician
- Production Team Leader

## Program Tips

### Suggested Certificate

#### Leadership Technical Certificate (TC-196-7)

No matter what your career, success depends on demonstrating good leadership skills in a very competitive workplace. This certificate will provide you with the skills and understanding necessary to become more effective in leadership positions in business, industry, government, and healthcare. Increase your knowledge in personal leadership, new management principles, ethics, and employee performance techniques. Courses in this certificate are offered at varying times and delivery methods to accommodate your needs. Please go to [www.cvtc.edu](http://www.cvtc.edu) to see all available certificates.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
606-185	Blueprint Reading	2	1	
606-160	Manufacturing Materials and Processes	3	3	Program student
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-115	College Technical Math 1	5	5	(See Prepared Learner Guide)
806-134	General Chemistry <b>OR</b>	5	4	(See Prepared Learner Guide)
806-245	Principles of General Chemistry 1	7	5	(See Liberal Arts Placement Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16-17 cr.</b>	
<b>Second Term</b>				
103-102	Microsoft Office Suite	2	2	
606-161	CAD, Basic	4	3	
623-130	Lean Fundamentals	2	2	
623-132	Workplace Safety	2	2	
804-116	College Technical Math 2	4	4	804-115
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Third Term</b>				
606-102	Principles of Design	3	2	
606-104	Geometric Dimension & Tolerancing	4	3	
606-130	Solid Modeling 1	5	3	
623-154	Engineering Economy	3	3	
801-196	Oral/Interpersonal Communication	3	3	
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Fourth Term</b>				
606-131	Solid Modeling II	5	3	606-130
625-110	Manufacturing and Quality Assurance	3	3	804-189
806-154	General Physics I	5	4	804-115
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
102-112	Principles of Management <b>OR</b>	3	3	
102-188	Project Management <b>OR</b>			
623-114	Industry Practicum	216	3	Program student
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 65**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're a "people person" with a flair for business, the Marketing Management program could be just what you're looking for. This program is a good match for people with an interest in

- entrepreneurship/management.
- promotion/advertising.
- business to business sales.
- social media marketing.
- customer relationship management.
- sports, entertainment, and event marketing.
- detail management.

In this program will you learn how to make strategic marketing decisions regarding product, price, promotion, and distribution to help businesses compete in today's highly competitive marketplace.

You'll receive hands-on learning from class projects, tours, operating your own small business, and completing an internship. Your program will include training in all aspects of marketing:

- Sports, entertainment, and event marketing
- Promotion/advertising methods and techniques
- Effective sales strategies
- Strategic planning for marketing
- Management skills and abilities
- Marketing research
- Small business management
- Social media marketing

Marketing is the largest occupation in the United States. There are great opportunities in sales, research, promotion/advertising, buying, distribution, and management. A business must successfully meet customer needs and market its products or services. Marketing is more than "selling;" it's a diverse, challenging field offering you many opportunities. This program offers the skills that you need for a truly rewarding career!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school marketing
- High school DECA (co-curricular organization for Marketing students)
- Speech
- Computer literacy
- High school accounting
- Economics
- Entrepreneurship
- General business

*Marketing Management students have the opportunity to participate in an active Collegiate DECA Chapter while at CVTC. The Collegiate DECA Chapter focuses on leadership development, community involvement, social activities and competition at regional, state, and international events.*

## Career Opportunities

- Marketing Manager
- Business Owner/General Manager
- Store Manager
- Sales Manager
- Regional Manager
- Real Estate Agent
- Marketing Director
- Event Planner
- Sales Representative
- Social Media Coordinator
- Retail Sales Consultant
- Insurance Agent

## Program Tips

### Integrated Business Programs

When you applied to CVTC, you chose to pursue a degree in the marketing management field. Because there is a common set of core classes in the first and second semesters of the business management, human resources, and marketing management programs, students can more easily complete more than one program, graduating with multiple majors. You can also more easily change your program if you find that human resources or business management is a better fit for you. If you are interested in changing or adding a program, please make an appointment with your business academic advisor.

### Scheduling Considerations

Not all marketing classes will be offered each semester. Plan ahead and register for a class when it is available.

### Marketing Internship

Internship should be taken fourth semester. Taking Internship during third semester is not feasible as 104-166 Enterprise Marketing & Management (a third semester course) will require numerous hours and is a prerequisite for the internship class.

### Distance Learning

Some courses are available online, in hybrid format, and evenings. Check the course offerings listing for more information.

### Professional Development for Marketing

Students must enroll in Professional Development for Marketing 104-182 concurrently with the internship course during fourth semester. This course will meet face-to-face in a traditional classroom and in a computer lab. Students will develop a professional career portfolio and an e-portfolio during the semester. It is important for students to start saving examples of work starting with their first semester in all of their core courses for documentation in their career portfolios.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
116-193	Introduction to Human Resources	3	3	
102-131	Introduction to Business	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17</b>	<b>cr. 17</b>	
<b>Second Term</b>				
104-125	Promotion Principles	4	3	104-102
104-104	Professional Selling	3	3	
101-111	Accounting 1 <b>OR</b>	5	4	
101-105	Introduction to Accounting	3	3	
102-112	Principles of Management	3	3	
801-196	Oral/Interpersonal Communication	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 16-18</b>	<b>cr. 15-16</b>	
<b>Third Term</b>				
104-152	Social Media Marketing	2	2	104-102, 104-125
104-105	Marketing Research	4	3	104-102
104-140	Business to Business Selling <b>OR</b>	3	3	Fall only, 104-104
104-108	Retail Management			Spring only
104-166	Enterprise Marketing & Management	8	4	104-102, 104-104, 104-125
801-198	Speech	3	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 23</b>	<b>cr. 18</b>	
<b>Fourth Term</b>				
104-169	Marketing Internship (72 hours)		1	Program Student, 104-166; Co-requisite: 104-182
104-160	Entertainment/Sports Event Marketing	3	3	104-102, 104-125
104-111	Consumer Behavior <b>OR</b>	3	3	Fall only
104-126	Promotional Design			Spring only, 104-102, 104-125, 104-152
104-182	Professional Development for Marketing	2	2	Program Student; 104-166; Co-requisite: 104-169
104-183	Marketing Management	3	3	104-102, 104-105, 104-125
804-123	Math with Business Application <b>OR</b>	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics			(See Prepared Learner Guide)
809-172	Intro to Diversity Studies <b>OR</b>	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology <b>OR</b>			(See Prepared Learner Guide)
809-166	Introduction to Ethics			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>hrs. 17-18</b>	<b>cr. 18</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 68

## Short-Term Training Certificate(s)

- (TC-104-1) Small Business Marketing, 12 Credits
- (TC-104-2) Retail Management, 12 Credits
- (TC-104-3) Marketing Management, 12 Credits
- (TC-104-4) Professional Selling, 12 Credits
- (TC-104-5) Entertainment, Sports & Event Marketing, 15 Credits
- (TC-104-6) Promotional Design, 14 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you enjoy working with people, are detail oriented, have good communication skills, and seek a career in the health care field, the Medical Assistant program could be a good match for you.

Medical assistants help physicians by providing patient care, obtaining vital signs, and assisting with examinations and minor office surgery. Medical assistants also administer injectable medications and perform basic diagnostic testing (e.g. EKGs). They instruct patients about tests, procedures, and treatments. Besides patient care skills, medical assistants also perform administrative and laboratory functions:

- Schedule appointments
- Maintain paper and electronic medical records
- Perform bookkeeping
- Complete insurance forms
- Perform medical correspondence
- Collect specimens
- Prepare lab specimens
- Perform basic laboratory tests

As a graduate of the program, you are eligible to take the American Association of Medical Assistant national certification exam. Upon successful completion of this test, you can use the title Certified Medical Assistant [CMA (AAMA)]. The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)), upon the recommendation of the Medical Assisting Education Review Board (MAERB). Commission on Accreditation of Allied Health Education Programs, 1361 Park Street, Clearwater, FL 33756, phone 727-210-2350.

The program's goal is to prepare competent entry-level medical assistants in the cognitive (knowledge), and psychomotor (skills), and affective (behavior) learning domains.

There is a strong demand for people who are trained for clinical and administrative duties. This could be an excellent career area for you!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on PreAlgebra
  - 60 on Writing
- Wisconsin criminal background check (requires a processing fee)
- Biology-two semesters at high school level or one semester at postsecondary level with grade of "C" or better
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Medical Assistant program. The Admissions Office will notify you at the appropriate time.

## Helpful Background

- Keyboarding
- MS Word experience
- English (grammar, punctuation, spelling)
- Basic Algebra
- Biology

## Career Opportunities

- Medical Assistant
- Appointment Scheduler
- Medical Laboratory Assistant
- Phlebotomist
- Medical Office Receptionist
- Electrocardiogram Technician
- Medical Insurance Clerk
- Dermatology Technician
- Paramedical Examiner
- Resident Care Assistant

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### Externship Requirements (current through externship)

- Successful completion or standing in all other program courses
- 531-350 First Aid CPR or Red Cross "CPR for the Professional Rescuer" card and a current standard First Aid card or American Heart Association "BLS for Healthcare Providers" and a current standard First Aid Card. All cards must be current through the entire externship.
- TB Test
- Approval of program faculty
- Compliance with WI Caregiver Law
- Program Health Requirements are met

### This is NOT a Part-Time Program

This program is NOT designed to be part-time. However, students are encouraged to complete general education and medical related courses prior to entering the program. As a result, the students will have a lighter credit load once they are enrolled in the program. Please meet with an academic advisor or the program director for advisement.

### Recommendations

It is highly recommended that students complete the following courses:

- 103-103 Basic Keyboarding
- 543-300 Basic Nursing Assistant. Having completed this course may improve your chances for employment. The Basic Nursing Assistant course is NOT financial aid eligible and cannot be used as an elective.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
501-120	Medical Office Computing (T)	2	2	Program or pre-program student
501-101	Medical Terminology (T)	3	3	
509-302	Human Body in Health and Disease (T)	6	3	Program or pre-program student. (501-101 or concurrent)
509-303	Medical Assistant Laboratory Procedures 1 (T, L)	4	2	Program student. Corequisite: 509-304
509-304	Medical Assistant Clinical Procedures 1 (T, L)	8	4	Program student. (501-101 and 509-302 or concurrent), Corequisite: 509-303
801-195	Written Communication	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>26</b>	<b>17 cr.</b>	
<b>Second Term</b>				
509-301	Medical Assistant Administrative Procedures (T) <i>[Weeks 1-10]</i>	4	2	Program or pre-program student. (501-120 or concurrent)
509-305	Medical Assistant Laboratory Procedures 2 (T, L) <i>[Weeks 1-8]</i>	8	2	Program student; 501-101, 501-120, 509-302, 509-303, 509-304, 801-195, (509-301, 509-307, 509-309 or concurrent); Corequisite: 509-306, 509-310
509-306	Medical Assistant Clinical Procedures 2 (T, L) <i>[Weeks 1-10]</i>	10	3	Program student; 501-101, 501-120, 509-302, 509-303, 509-304, 801-195, (509-301, 509-307, 509-309 or concurrent); Corequisite: 509-305, 509-310
509-307	Medical Office Insurance and Finance (T) <i>[Weeks 1-10]</i>	6	2	Program or pre-program student, 501-101, 509-302, (501-120 or concurrent)
501-308	Pharmacology for Allied Health (T) <i>[Weeks 1-10]</i>	6	2	Program student, 501-101, 501-120, 509-302, 509-303, 509-304, 801-195, (509-301, 509-307, 509-309 or concurrent), Corequisite: 509-305, 509-306, 509-310
509-309	Medical Law, Ethics and Professionalism (T) <i>[Weeks 1-10]</i>	4	2	Program or pre-program student.
509-310	Medical Assistant Practicum (C) <i>[Weeks 11-16]</i> (Weekday, Daytime clinical – 192 hours)	36	3	Program student, 501-120, 501-101, 509-301, 509-302, 509-303, 509-304, 509-309, 501-308, 509-305, 509-306, 509-307, 801-195 or concurrent
531-350	First Aid CPR <i>[Weeks 1-8]</i>	3	1	<b>Certification must be current through Externship 509-310, DOES NOT COUNT TOWARD GRADUATION CREDIT</b>
<b>Total Semester Hrs./Week and Total Credits</b>		<b>38</b>	<b>16 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 33

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

10-513-1

## Description

If you are interested in medicine and health care, enjoy laboratory work, and want to provide a service to others, the Medical Laboratory Technician program could be for you. The program helps you acquire the entry-level knowledge and skills you need to work in a clinical laboratory:

- Collecting and processing biologic specimens for analysis
- Performing analytical tests on body fluids, cells, and products
- Recognizing pre-analytical and analytical variables in laboratory testing
- Monitoring quality control
- Performing preventative and corrective maintenance on laboratory instruments
- Maintaining professional conduct in communication with patients, health care professionals, and the public

This program includes a 20-week clinical which might require you to relocate. Clinical sites could include Amery, Ashland, Barron, Chippewa Falls, Eau Claire, Hudson, Menomonie, Rice Lake, and Stanley. Upon graduation, you will be eligible to complete the national certification examination for Medical Laboratory Technician (MLT).

As a Medical Laboratory Technician, you would be qualified to work in all kinds of health care settings. Employment of medical laboratory workers through 2016 is expected to grow faster than the average for all occupations. Job opportunities are excellent!

This program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences ([www.naacls.org](http://www.naacls.org)), 5600 N. River Rd, Suite 720, Rosemont, IL 60018.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
  - 60 Writing
- Wisconsin criminal background check (requires a processing fee)
- Algebra, Biology, Chemistry-two semesters at high-school level or one semester at postsecondary level with grade of “C” or better
- A pre-entrance health history and physical examination must be on file three weeks prior to entering the core courses of the Clinical Laboratory Technician program. The Admissions Office will notify you at the appropriate time.

## Helpful Background

- Strong reading and mathematical skills
- Critical thinking skills
- Computer literacy

## Career Opportunities

- Medical Laboratory Technician (ASCP) or (BOC)
- Clinical Laboratory Technician (NCA)
- Laboratory Technician
- Research Technician

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### Relocation for Internship

Due to the geographic location of certified clinical sites, relocation in the final term should be expected.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
513-110	Basic Lab Skills (L) [ <i>1st 8 weeks</i> ]	4	1	Program student; Co-requisite: 513-113
513-111	Phlebotomy (T, L) [ <i>2<sup>nd</sup> 8 weeks</i> ]	6	2	
513-113	QA Lab Math (T) [ <i>1<sup>st</sup> 8 weeks</i> ]	2	1	Co-requisite: 513-110
513-115	Basic Immunology Concepts (T, L)	3	2	Program student
801-195	Written Communication	3	3	(See Prepared Learner Guide)
806-186	Introduction to Biochemistry (T, L)	5	4	(See Prepared Learner Guide)
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Second Term</b>				
513-114	Urinalysis (T, L)	3	2	513-110, 513-113
513-120	Basic Hematology (T, L)	5	3	513-110, 513-111, 513-113, 513-115; Co-requisite: 513-121
513-121	Coagulation (L)	2	1	513-110, 513-111, 513-113, 513-115; Co-requisite: 513-120
513-109	Blood Bank (T, L)	6	4	513-110, 513-113, 513-115
806-197	Microbiology (T, L)	5	4	806-177
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Third Term (Summer)</b>				
<u>Choose one (1) course from the following:</u>				
801-196	Oral/Interpersonal Communication <b>OR</b>	6	3	
801-197	Technical Reporting <b>OR</b>			801-195 with a minimum grade of "C"
801-198	Speech			
<u>Choose one (1) course from the following:</u>				
809-195	Economics <b>OR</b>	6	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology <b>OR</b>			(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>6 cr.</b>	
<b>Fourth Term</b>				
513-131	Clinical Chemistry 1 (T, L)	4	3	513-114, 806-186, 806-177
513-132	Clinical Chemistry 2 (T, L)	3	2	Co-requisite: 513-131
513-133	Clinical Microbiology (T, L)	6	4	Program student; 806-197; Co-requisite: 513-140
513-140	Advanced Microbiology (T, L)	3	2	806-197; Co-requisite: 513-133
513-145	MLT Seminar (T)	3	3	Program student, third semester status, Fall only
<b>Total Semester Hrs./Week and Total Credits</b>			<b>14 cr.</b>	
<b>Fifth Term</b>				
513-130	Advanced Hematology (C) [ <i>20 weeks</i> ]	6	2	<u>Relocation likely</u> 513-120 and 513-121; Co-requisites: 513-151
513-151	Clinical Experience 1 (C)		3	Program student; 513-131, 513-132, 513-145; Corequisites: 513-130, 513-152, 513-144
513-152	Clinical Experience 2 (C)		4	Program student; 513-131, 513-132, 513-145; Co-requisites: 513-130, 513-151, 513-144
513-144	Clinical Experience 3 (C)		4	Program student; Co-requisites: 513-130, 513-151, 513-152
<b>Total Semester Hrs./Week and Total Credits</b>			<b>13 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 67

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you enjoy figuring out how things work, repairing engines, and associating with late-breaking technology, you are a good candidate for the Motorcycle, Marine and Outdoor Power Products Technician program.

You'll learn how to efficiently diagnose mechanical, fuel, and electrical problems and make repairs quickly. In addition to classroom activities, you'll learn through hands-on practice in a lab designed to be as much like real-life experience as possible. Throughout the semester, you'll develop the broad skill base employers are looking for through working on inboard and outboard engines as well as engines that power motorcycles, ATVs, snowmobiles, and other recreational vehicles; lawn mowers, chain saws, and more.

Your program includes experience with E-TEC, the technology behind today's energy-efficient, low-emissions two-stroke engines. This new engineering has produced two-stroke engines that meet Environmental Pollution Association (EPA) standards, and the entire industry will be affected. Your ability to diagnose and repair boat motors, snowmobiles, and other recreational vehicles with E-TEC engineering can give you a competitive edge in the marketplace. There are few training centers nationwide with the facilities and capabilities of CVTC's Motorcycle, Marine and Outdoor Products Technician program.

With just one year of training, you could be well on your way to a career as a motorcycle, marine and outdoor power products technician. This could be the program for you!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school technical education courses
- Basic mathematics
- General science
- Electrical schematics

## Career Opportunities

- Marine Technician
- Marine Outboard Mechanic
- Power Products Technician
- Engine Technician
- Power Systems Technician
- Power Sports Technician
- Service Technician
- Motorcycle Technician

## Program Tips

### Summer Session

This program operates on a year-round basis; therefore, summer session attendance is required in addition to regular school year attendance. Students that receive financial aid must reapply for financial aid for the summer session.

### Labs

This program does not have an open lab. Instead, the lab operates on a set schedule.

### Tool Set Purchase

You will be required to purchase an approved tool set from a college-approved vendor prior to starting the program. The required investment in tools may range from \$3,000 to \$3,500. These tools will be used throughout the program.

### Certification

Students will obtain the Bronze Stihl Certification for their outdoor power products through this program.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b><u>First Term</u></b>				
442-314A	Related Welding, Marine	4	2	Program student
461-310	Basic Engines/Systems, Intro. to ( <i>1<sup>st</sup> 8 weeks</i> )	20	5	Fall only; Program student; 461-312 or concurrent
461-312	Engine Theory 1	4	2	Fall only; 461-310 or concurrent
461-330	Marine Outboards ( <i>2<sup>nd</sup> 8 weeks</i> ) OR	20	5	461-310, 461-312 or concurrent
461-340	Marine Inboards ( <i>2<sup>nd</sup> 8 weeks</i> )	20	5	461-310, 461-312 or concurrent
804-360C	Math for Technical Trades – Auto and Small Engines	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>31</b>	<b>16 cr.</b>	
<b><u>Second Term</u></b>				
461-313	Engine Theory 2	4	2	Spring only; 461-310, 461-312 or concurrent
461-330	Marine Outboards ( <i>1<sup>st</sup> 8 weeks</i> ) OR	20	5	461-310, 461-312 or concurrent
461-340	Marine Inboards ( <i>1<sup>st</sup> 8 weeks</i> )	20	5	461-310, 461-312 or concurrent
461-320	Snowmobiles and ATVs ( <i>2<sup>nd</sup> 8 weeks</i> ) OR	20	5	461-310, 461-312 or concurrent
461-360	Motorcycles ( <i>2<sup>nd</sup> 8 weeks</i> )	20	5	461-310, 461-312 or concurrent
801-351	Applied Communication	3	2	
809-351	Occupational Relations	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>30</b>	<b>16 cr.</b>	
<b><u>Third Term (Summer)</u></b>				
461-314	Engine Theory 3	2	1	Summer only; 461-310, 461-312 or concurrent
461-320	Snowmobiles and ATVs OR	20	5	461-310, 461-312 or concurrent
461-360	Motorcycles	20	5	461-310, 461-312 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>		<b>24</b>	<b>6 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 38

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Nano Engineering Technology program provides training for those seeking a career in micro or nano systems engineering, manufacturing and scientific laboratory applications, micro manufacturing in electronics, or thin film processing.

The program provides instruction for non-medical laboratory workers with hands-on training to

- apply hands on fundamental laboratory procedures and practices.
- design and produce micro and nano scale products.
- analyze materials using an array of equipment.
- analyze and troubleshoot micro and nano level processes.
- monitor production processes with an emphasis on safety and quality assurance.

Coursework includes lab science fundamentals, biotechnology, chemistry, physics, and nanoscience. You will design, produce, and analyze molecular level applications as they have transitioned from research to consumer products. You will use instrumentation, micro and nano fabrication processes, statistics, written communication, math, manufacturing processes, quality assurance, safety, and computer aided design. In addition, the program offers training in leadership, sociology, psychology, and project management to help graduates prepare for their careers in engineering technology.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 60 on Writing
  - 35 on Algebra

## Helpful Background

- High school courses in science and math are very helpful, as are computer knowledge, an ability to work as a team member, and the use of logical problem solving techniques.
- Recommended preparation for high school students: algebra, biology, biotechnology, physics, chemistry – two semesters at high school level or one semester at post-secondary level
- Completing transcribed high school courses will ease the student's progress through the program

## Career Opportunities

- Micro or Nano Systems Engineering Technician
- Biotechnologist / Biological Laboratory Technician
- Quality Assurance Technician
- Research Technician
- Materials Engineering Technician
- Cleanroom Technician
- Microscope Operator
- Scanning Electron Microscope Operator

## Program Tips

### Transfer Credit

Individuals planning to transfer to a Wisconsin university have the option to take 200-level transfer courses that may count towards requirements in the four-year degree being pursued. While all of the 100-level associate degree general education courses listed on the Nano Engineering program sheet are approved for general transfer, the specific requirements of a given program may prefer the 200-level courses listed below:

- 801-219 English Composition 1, 3 credits
- 801-223 English Composition 2, 3 credits
- 804-224 College Algebra, 4 credits
- 804-230 Statistics, 4 credits
- 806-276 General Physics 1, 5 credits
- 806-245 Principles of General Chemistry 1, 5 credits

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
606-185	Blueprint Reading	2	1	
623-108	Intro to Manufacturing Lab Science	4	3	Program student
801-195	Written Communication	3	3	(See Prepared Learner Guide)
804-115	College Technical Math 1	5	5	(See Prepared Learner Guide)
806-134	General Chemistry <b>OR</b>	5	4	(See Prepared Learner Guide)
806-245	Principles of General Chemistry 1	7	5	(See Liberal Arts Placement Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16-17 cr.</b>	
<b>Second Term</b>				
103-102	Microsoft Office Suite	2	2	
606-161	CAD, Basic	4	3	
623-132	Workplace Safety	2	2	
635-118	Intro to Biotechnology	4	3	Program student, 623-108
804-116	College Technical Math 2	4	4	804-115
809-196	Intro to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Third Term</b>				
623-116	Lab Electronics	5	3	623-108
635-103	Lab Science Instrumentation	3	2	623-108
635-105	Nanomaterials	4	3	623-108
635-108	Micro and Nano Fabrication	2	2	623-108
801-196	Oral/Interpersonal Communication	3	3	
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Fourth Term</b>				
625-110	Manufacturing & Quality Assurance	3	3	804-189
635-119	Principles of Micro and Nano Fabrication	5	3	
635-150	Manufacturing Processes and Laboratory Science	3	2	635-103
806-154	General Physics I	5	4	
809-198	Intro to Psychology	3	3	(See Prepared Learner Guide)
102-112	Principles of Management <b>OR</b>	3	3	
102-188	Project Management <b>OR</b>			
623-114	Industry Practicum	216	3	Program student
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 67

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

Could you be a registered nurse? The profession needs people with highly developed personal strengths:

- Effective communicator
- Able to work in teams
- Critical thinking skills
- Teaching ability
- Desire to help others
- Commitment to health

When you successfully complete the first year of this program you will have met the academic requirements to take the practical nursing (LPN) licensure examination. Upon completion of the second year of the program the student has met the academic requirements to take the NCLEX-RN licensure examination.

Employment of registered nurses is expected to grow much faster than the average for all occupations. The best employment opportunities are for those who are willing to relocate. This is a demanding program, and nursing is a demanding profession. But a career in nursing also offers tremendous rewards – and could be the career you've been searching for.

The program is a member of and accredited by the National League for Nursing Accrediting Commission, 3343 Peachtree Road, NE, Suite 500, Atlanta, GA 30326; <http://www.nlnac.org>.

## Admission Requirements

- COMPASS® pre-entry assessment, 85 on reading, and 35 on algebra or ACT with scores of at least 22 in reading and 22 in math.
- Submit the Wisconsin Criminal History Single Name Record Request Form, Background Information Disclosure Form, Release Form, and a \$20.00 background processing fee.
- Submit proof of completion of Nursing Assistant training that includes a clinical component.
- COMPASS® scores below the minimum levels: Applicants scoring below the minimums on the Reading and/or Algebra section of the COMPASS must re-test until they meet the required minimums.
- Submit proof of current CPR. Certification must be from the American Heart Association – Healthcare Provider level or the American Red Cross – Professional Rescuer level. Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certifications are not acceptable.
- Complete General Anatomy & Physiology (806-177; 4 credits) and Advanced Anatomy & Physiology (806-179, 4 credits) with a grade of C or better.

## Helpful Background

- Strong mathematics and science background
- Strong comprehension, reading, and communication skills
- Strong social and behavioral sciences

## Career Opportunities

- Staff Nurse
- Ambulatory Care Nurse
- Charge Nurse
- Home Health Care Nurse
- Private Duty Nurse
- School Nurse
- Clinic Nurse
- Leadership RN
- Occupational Health Nurse
- Public Health Nurse

## Program Tips

### Criminal Background Check

This is a program requirement, but beyond that, there could be the possibility of being declined for program admission based on a criminal history. Also, even if accepted, all students must be able to rotate to all clinical sites. If a student is declined based on criminal background, they could be in a situation where they may not be able to finish the clinical courses, and hence would not be able to graduate.

If you have any significant problems with your criminal background, you need to contact a CVTC counselor as soon as possible to have the background evaluated.

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### CPR

Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

### Course Sequence

Most science and all nursing courses are designed to be taken in consecutive semesters for optimum learning and to ensure the student can successfully complete the program in a timely manner. Students who interrupt their individual academic plan will experience delays in completing their program. It is strongly recommended that students meet with an academic advisor to design an individual academic plan to facilitate program success.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
543-101	Nursing Fundamentals (T)	2	2	Program student, 806-177 or concurrent
543-102	Nursing Skills (L)	6	3	Program student, (543-101, 543-103, 806-177 or concurrent)
543-103	Nursing Pharmacology (T)	2	2	Program student, 806-177 or concurrent
543-104	Nsg: Introduction to Clinical Practice (C), <i>[8 weeks]</i>	12	2	Program student, (543-101, 543-102, 543-103, 806-177 or concurrent)
801-195	Written Communication <b>OR</b>	3	3	(See Prepared Learner Guide)
801-136	English Composition <b>1OR</b>			(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
806-177	General Anatomy & Physiology	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
809-188	Developmental Psychology	3	3	(See Prepared Learner Guide)
<b>Total Term Hrs./Week and Total Credits</b>			<b>19 cr.</b>	
<b>Second Term</b>				
543-105	Nursing Health Alterations (T)	3	3	Program student, 543-101, 543-102, 543-103, 543-104, 806-177, (809-188 or concurrent)
543-106	Nursing Health Promotion (T)	3	3	Program student, 543-101, 543-102, 543-103, 543-104, 806-177, (809-188 or concurrent)
543-107	Nsg: Clinical Care Across the Lifespan (C), <i>[8 weeks]</i>	12	2	Program student, 543-101, 543-102, 543-103, 543-104, (543-105 or concurrent)
543-108	Nsg: Introduction to Clinical Care Management (C), <i>[8 weeks]</i>	12	2	Program student, 543-101, 543-102, 543-103, 543-104, (543-106, 809-188 or concurrent)
806-179	Advanced Anatomy and Physiology	5	4	806-177
801-196	Oral/Interpersonal Communication <b>OR</b>	3	3	
801-198	Speech			
<b>Total Term Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Third Term</b>				
543-109	Nsg: Complex Health Alterations I (T)	3	3	Program student, 543-105, 543-106, 543-107, 543-108, 806-179, (806-197 or concurrent)
543-110	Nsg: Mental Health and Community Concepts (T)	2	2	Program student, 543-105, 543-106, 543-107, 543-108, 806-179
543-111	Nsg: Intermediate Clinical Practice (C) <i>[8 weeks]</i>	18	3	Program student, 806-179, (543-109, 543-110, 543-112, 806-197, [809-198 or 809-199] or concurrent)
543-112	Nursing Advanced Skills (L)	2	1	Program student, 543-105, 543-106, 543-107, 543-108, 806-179
806-197	Microbiology	5	4	806-177
809-198	Introduction to Psychology <b>OR</b>	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations			(See Prepared Learner Guide)
	Elective		3	
<b>Total Term Hrs./Week and Total Credits</b>			<b>19 cr.</b>	
<b>Fourth Term</b>				
543-113	Nsg: Complex Health Alterations 2 (T) <i>[12 weeks]</i>	4	3	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199)
543-114	Nsg: Management and Professional Concepts (T) <i>[11 weeks]</i>	3	2	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199)
543-115	Nsg: Advanced Clinical Practice (C) <i>[1<sup>st</sup> 8 weeks]</i>	18	3	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199), (543-113 or concurrent)
543-116	Nursing Clinical Transition (C) <i>[2<sup>nd</sup> 8 weeks]</i>	12	2	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199), (543-113, 543-114, 543-115 or concurrent)
809-196	Introduction to Sociology <b>OR</b>	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies <b>OR</b>			(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
	Elective		2	
<b>Total Term Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Suggested Elective</b>				
543-121	Introduction to Critical Care Nursing	4	3	Spring only: Program student or Critical Care Nursing Certificate student 543-109, 543-110, 543-111, 543-112, co-reqs 543-113, 543-114, 543-115, 543-116
543-166	Introduction to Emergency Department Nursing	4	3	Fall only: Program student or Emergency Department Nursing Certificate student, 543-109, 543-110, 543-111, 543-112, coreqs 543-113, 543-114, 543-115, 543-116

MINIMUM PROGRAM CREDITS REQUIRED = 70

## Short-Term Training Certificate(s)

- (TC-543-2) Critical Care Nursing, 5 Credits
- (TC-543-3) Emergency Department Nursing, 5 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're seeking a comparatively short educational program that leads to a career in the health care field, consider the Nursing Assistant program. This program may be a good match for you if you

- are kind and compassionate.
- have good communication skills.
- can work as a team member.
- are efficient, accurate, and detail oriented.
- can maintain high professional standards.

As a nursing assistant, you would provide care to a variety of patients to help them live as comfortably and independently as possible. This program will help you learn basic nursing skills:

- Collect data
- Safeguard patients
- Assist in all activities of daily living
- Communicate with patients

The course requires 120 hours of video-based instruction, laboratory, and clinical work. You'll need to have access to a computer with an Internet hookup. This could be in your home, at a nearby library, at one of the CVTC branch campuses, or another location that is convenient for you. Because the instruction is video-based and offered online, you can access the instruction on your own schedule. You'll also work in a laboratory setting on simulated laboratory experiences. During the final portion of your program, you'll work in nursing homes or hospitals and gain actual experience with residents or patients.

When you successfully complete the program, you will be eligible to apply for the National Nurse Aide Assessment Program (NNAAP) Examination. You will need to be certified before you can work in this career area. The demand for certified nursing assistants is expected to increase, especially in nursing homes, community-based residential facilities, and through home health care organizations.

## Admission Requirements

- A two-step TB test before beginning the clinical portion of the class
- Wisconsin criminal background check (requires a processing fee)
- At least 16 years old

## Helpful Background

- Reading at the 10th grade level or higher
- Good oral communication skills
- Basic math skills

## Career Opportunities

- Certified Nursing Assistant (CNA)
- Nursing Assistant
- Personal Care Worker
- Home Health Aide
- Hospice Aide
- Health Technician

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
543-300	<b>First Term</b> Nursing Assistant	8	3	
	<b>Total Hrs./Week and Total Credits</b>	<b>120 hrs.</b>	<b>3 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 3

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

Do you see yourself working in a fast-paced law office with attorneys and investigators, serving clients to help meet their legal needs? Then the paralegal profession could be for you.

Working under the supervision of an attorney, paralegals

- investigate facts of a case.
- work with clients.
- use computers to find/organize legal information.
- review contacts, medical records, and court transcripts.
- draft documents and prepare them for filing with a court.
- perform legal research.
- assist with trial preparation and attend court.

CVTC's Paralegal program is one of a select group of programs in the United States and the only paralegal program in the Chippewa Valley approved by the American Bar Association. CVTC's Paralegal program has been providing quality paralegal instruction in the Chippewa Valley since 1978. Our faculty, attorneys and paralegals, have practical legal experience to guide you along a path of excellence in the law. The Paralegal program is committed to preparing you for paralegal and legal assistant positions, improving the quality, accessibility, and affordability of legal services.

Graduates work in many professional settings, often drawing on a second area of expertise to specialize in one or more areas of paralegal services:

- Hospitals or personal injury, medical malpractice, or elder law firms
- Immigration law, working with people who do not speak English
- Advertising and marketing industry
- Sports and entertainment agencies or companies
- Patent, copyright, trademark law firms
- Environmental law, working for state/federal government agencies
- Family law legal advocates
- Insurance companies, financial institutions, and real estate firms

If you have graduated with a Bachelor's in Arts or Sciences, you might consider obtaining a Paralegal certificate, which may be completed in one year.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 85 on Reading
  - 60 on Writing

## Helpful Background

- High school English, four years
- Strong reading skills
- High school accounting
- Computer literacy
- Social studies
- High school math, four years

## Career Opportunities

- Paralegal
- Legal Assistant

## Program Tips

### American Bar Association Requirements

CVTC's Paralegal Program is one of a very select group of paralegal education programs in the United States that is approved by the American Bar Association (ABA), and it is the only ABA approved paralegal education program in the Chippewa Valley. The ABA requires that at least four of the 110 legal specialty courses (12 credits) must be taken in a traditional classroom—not online. CVTC offers Civil Litigation I and II, Legal Writing, and Legal Research in the classroom. The other required classes may be offered in an online or traditional format. Legal specialty selective classes may be offered on a rotational basis.

### Program Characteristics

The primary goal of CVTC's Paralegal Program is to educate students for positions as paralegals where they may thrive professionally, demonstrating the competency and ethical standards demanded by the legal profession. Students will receive a well-rounded education founded on a practical mix of general education and legal education courses, stressing understanding and reasoning rather than rote learning of facts.

Please note that paralegals cannot give legal advice, represent clients in court, or otherwise engage in the unauthorized practice of law. The practice of law by non-attorneys is strictly prohibited by law.

### Degree Requirements

To graduate, you must complete 27 credits in General studies with a minimum of a cumulative 2.0 GPA ("C" average); and 39 credits in paralegal (110) courses, with a minimum final grade of "C". The ABA requires 4 face-to-face classes as listed above. To ensure availability of required classes, students should take classes in the order noted on the Program Requirement sheet.

### Computer Skills

To begin the program, you must be familiar with Microsoft Office Suite and have a keyboarding speed of 35 words per minute. You may take a course at CVTC to increase your knowledge and skills.

### Paralegal Internship

You will also be required to complete a capstone course (either Paralegal Internship, 110-142, or Paralegal Field Study, 110-143) in your final semester in the Program. Students should contact the Paralegal Program Director before signing up for the Internship or Field Study course. You are required to complete 144 hours while working as an intern in a legal setting. You may only record your hours at your internship site once the semester begins, and not before.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
*110-101	Introduction to Paralegalism and Legal Ethics	3	3	Fall only
*110-102	Civil Litigation I	3	3	Fall only
*110-104	Legal Research	3	3	Fall only
809-122	Introduction to American Government <b>OR</b>	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
801-136	English Composition 1 <b>OR</b>	3	3	Program student. (See Prepared Learner Guide)
801-219	English Composition 1			
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Second Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
106-141	Computer Applications-Legal	3	3	
*110-103	Civil Litigation II	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-105	Legal Writing	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-106	Family Law	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
809-195	Economics	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Third Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
*110-168	Criminal Law-Paralegal	3	3	Fall only, 110-103 or (BA or BS)
*110-114	Administration of Estates	3	3	Fall only, 110-103 or (BA or BS)
*110-160	Employment Law <b>OR</b>	3	3	Fall only, 110-102, 110-104 (801-136 or 801-219)
*110-147	Immigration Law <b>OR</b>			Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-180	Elder Law			110-102, 110-104 (801-136 or 801-219)
*110-110	Real Estate Law <b>OR</b>	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-115	Administrative Law			Fall only, 110-102, 110-104 (801-136 or 801-219)
804-189	Introductory Statistics <b>OR</b>	3	3	(See Prepared Learner Guide)
806-189	Basic Anatomy			(See Prepared Learner Guide)
809-128	Marriage and Family <b>OR</b>	3	3	(See Prepared Learner Guide)
809-159	Abnormal Psychology			809-198
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b>Fourth Term</b>				
<i>Grade of "C" or better for all prerequisites</i>				
101-105	Intro. to Accounting	3	3	
*110-107	Legal Aspects of Business Organizations	3	3	Spring only, 110-103
*110-122	Debtor and Creditor Relations <b>OR</b>	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-170	Contract Law			110-102, 110-104 (801-136 or 801-219)
*110-142	Paralegal Internship (144 hrs. off campus work exp.) <b>OR</b>		3	110-101, 110-103, 110-105 (110-114 or 110-168)
*110-143	Paralegal Field Study, (144 hrs. independent study)			110-101, 110-103, 110-105 (110-114 or 110-168)
801-196	Oral/Interpersonal Communication <b>OR</b>	3	3	
801-198	Speech			
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	

## MINIMUM PROGRAM CREDITS REQUIRED = 66

\*Legal Speciality Classes (110) are restricted to the Paralegal Program and Paralegal Post-baccalaureate Certificate

### Short-Term Training Certificate(s)

- (TC-110-1) Paralegal Post-Baccalaureate, 24 Credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you're calm in emergencies, are interested in a career in the health field, and have a desire to help others, the Paramedic Technician program could be a good match for you.

As a paramedic, you would provide competent care to people:

- Respond to medical and traumatic emergencies
- Assess ill and injured people
- Initiate care (within your scope of practice)
- Provide for continuity of care
- Take care of patients under direct medical control

You will also provide advanced care, including administering medications, interpreting EKGs, performing endotracheal intubation, and using monitors and other advanced procedures.

Emergency services function 24 hours a day, seven days a week, so you will have irregular working hours. You'll need to be emotionally stable, have good dexterity and agility, and be able to lift and carry heavy loads.

Upon graduation from the Paramedic Technician program, you are eligible to apply to write the National Registry of EMT's examination and apply to the Wisconsin Department of Health Services for licensure. Your career could take you to a variety of settings, including ambulance services, fire departments, industrial settings, prisons, jails, and hospital emergency departments. Employment opportunities are expected to be good.

This could be the start of a very promising, rewarding career for you!

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-Algebra
- Wisconsin criminal background check (requires a processing fee)
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Paramedic Technician program. The Admissions Office will notify you at the appropriate time.
- Submit proof of CPR certification by the American Heart Association (Healthcare Provider Level) or the American Red Cross (Professional Rescuer Level).
- Submit a copy of a current State of Wisconsin EMT - Basic License or National Registry of EMT - Basic certificate with expiration date.

## Helpful Background

- Chemistry
- Human biology
- Advanced mathematics

## Career Opportunities

- Critical Care Paramedic
- Paramedic

## Program Tips

### Uniform

- Students will be required to wear program uniforms throughout the program. This includes a program tee-shirt, hospital scrubs, dress shirt, black polish-able boots, and trousers. Students must purchase the required program clothing prior to the start of classes.
- Picture identification badges will be required when completing coursework off-campus, such as internship site work, and public education presentations.

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses.

The following must be completed and approved before core course program entry:

- CPR-AHA Basic Life Support-Healthcare Provider

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### Program Prerequisite - 531-110 Basic Emergency Medical Technician (<http://www.cvtc.edu/ems>)

This course and successful completion of the National Registry of EMT's examination are prerequisites for entry into the Associate Degree Program. An important note: to begin your first clinical you must possess a current Wisconsin EMT-Basic License. To register for EMT-Basic, the student must have completed American Heart Association – Health Care Provider or American Red Cross – Professional Rescuer certification. Current CPR certification must be maintained throughout the program.

### CPR

American Heart Association Healthcare Provider CPR or the Red Cross equivalent, CPR for the Professional Rescuer is required for program admission. Current CPR certification must be maintained throughout the program.

Coursework includes the following professional certifications:

- Advanced Cardiac Life Support (ACLS)
- Pediatric Advanced Life Support (PALS)
- Advanced Medical Life Support (AMLS)
- International Trauma Life Support (ITLS)

To graduate with the Paramedic Technician Associate Degree, the individual must successfully complete 16 total credits from CVTC.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
531-180	Intro to Advanced Pre-hospital Care (T, L)	7	4	WI EMT-Basic License, Current Healthcare Provider CPR
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication (T)	3	3	(See Prepared Learner Guide)
806-177	General Anatomy and Physiology (T, L)	5	4	(See Prepared Learner Guide)
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>21</b>	<b>17 cr.</b>	
<b>Second Term (Summer)</b>				
806-179	Advanced Anatomy and Physiology (T, L)	5	4	806-177
531-911	EMS Fundamentals	2	2	Program student
531-912	Paramedic Medical Principles	4	4	Program student; 531-911 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>		<b>11</b>	<b>10 cr.</b>	
<b>Third Term</b>				
531-913	Patient Assessment Principles (T, L)	4	3	Program student; 531-912
531-914	Pre-hospital Pharmacology (T, L)	4	3	Program student; 531-913 or concurrent
531-915	Paramedic Respiratory Management (T, L)	3	2	Program student; 531-914 or concurrent
531-916	Paramedic Cardiology (T, L)	5	4	Program student; 531-915 or concurrent
531-917	Paramedic Clinical/Field 1 (192 hours)	12	3	Program student; 531-916 or concurrent
531-918	Advanced Emergency Resuscitation (L)	2	1	Program student; 531-917 or concurrent
809-188	Developmental Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>21</b>	<b>19 cr.</b>	
<b>Fourth Term</b>				
531-919	Paramedic Medical Emergencies (T)	4	4	Program student; 531-917 or concurrent
531-920	Paramedic Trauma (T, L)	4	3	Program student; 531-919 or concurrent
531-921	Special Patient Populations (T, L)	4	3	Program student; 531-920 or concurrent
806-197	Microbiology (T, L)	5	4	806-177
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>20</b>	<b>17 cr.</b>	
<b>Fifth Term (Summer)</b>				
531-922	EMS Operations (T)	1	1	Program student; 531-921 or concurrent
531-923	Paramedic Capstone (L)	2	1	Program student; 531-922 or concurrent
531-924	Paramedic Clinical/Field 2 (265 hours)	16	4	Program student
<b>Total Semester Hrs./Week and Total Credits</b>		<b>3</b>	<b>6 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 69**

## Short-Term Training Certificate(s)

- (TC-531-1) Emergency Medical Technician, 3 credits
- (TC-531-2) Critical Care Transport, 3 credits

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

31-536-1

## Description

The Pharmacy Technician program may be a good match for you if you

- enjoy working with people.
- have strong customer service skills.
- prefer to work as a member of a team.
- are alert, observant, and organized.
- can accept responsibility.
- have strong mathematics, spelling, and reading skills.

Upon graduation, you will be encouraged to take the PTCB National Certification Exam to become certified. Certification is required in some states and generally results in increased pay.

As a pharmacy technician, you'll assist the pharmacist:

- Package and label prescription drugs
- Prepare intravenous mixtures.
- Receive and inventory drug shipments.
- Maintain manual/computer records.
- Provide office services as needed.
- Compound medications.

All pharmacy technicians are held to high standards. You must:

- comprehend and use medical and drug terminology common to pharmaceutical environments.
- recognize and apply the knowledge of ethical and legal implications of your actions as it relates to yourselves, the pharmacist, and the pharmacy.
- be precise and accurate in all your professional actions.

You'll work the same hours as the pharmacists, and that may include evenings, nights, weekends, and holidays. Job prospects are expected to continue to be good. This could be the program and career you're looking for!

## Admission Requirements

- COMPASS® pre-entry assessment, 80 on Reading, 45 on Pre Algebra.
- Wisconsin criminal background check (requires a processing fee) showing no drug-related felonies.
- Agreement to notify CVTC of any changes in convictions and/or pending charges that occur after completing the Criminal History Record Check form.
- A Background Information Disclosure Form providing details of your past and current drug use.
- Consent to releasing the results of background checks to clinical sites (pharmacies); must be completed before you are placed at a clinical site.
- Consent to drug testing and of releasing of the results to clinical sites. You will be responsible for the cost of the testing.
- Biology – two semesters at high school level or one semester at postsecondary level with grade of “C” or better.
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask

for a copy of your card on the first day of your clinical courses.

- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Pharmacy Technician program. The Admissions Office will notify you at the appropriate time.
- 18 years of age; high school diploma/GED

## Career Opportunities

- Pharmacy Technician

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the clinical experience.

A copy of your physical exam form and criminal background check must be in your clinical folder; these forms will be checked each term before you will be authorized to go to any clinical setting.

### Criminal and Background Checks

Students will have individual criminal and abuse background checks completed upon admission. Results of background checks will be released to external affiliating agencies prior to student placement. Students must notify CVTC of any changes in convictions and/or pending charges which occur after completion of the Criminal History Record Check and Background Information Disclosure Form and prior to program completion.

**Note:** Applicants who have been convicted of a drug related felony will not be admitted to the program. Any other convictions of any kind, including misdemeanors or felonies, may need special approval from a clinical site to be admitted to the program.

### Drug Testing

Students may need to consent for drug testing and release of that information to external affiliating agencies for clinical experience. The drug test is a urine specimen which is tested for the presence of drugs, including but not limited to amphetamines, THC (marijuana), cocaine, methadone, opiates, and phencyclidine (PCP). CVTC is uncertain of what other types of drugs may be screened in the future. Payment for the drug screening is the responsibility of the student. A positive drug test will exclude a student from clinical placement which may result in dismissal from the Pharmacy Technician Program.

### National Certification Exam

Upon completion of the program it is strongly recommended that you complete the National Certification exam. For more information visit [www.ptcb.org](http://www.ptcb.org)

# Program Requirements

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
501-101	Medical Terminology (T)	3	3	
536-110	Pharmaceutical Calculations (T)	3	3	Program student, Co-requisite: 536-112, 536-115, 536-120, 536-134, 536-138, (501-101 or concurrent)
536-112	Pharmacy Business Applications (T, L)	4	3	Program student, Co-requisite: 536-110, 536-115, 536-120, 536-134, 536-138
536-115	Pharmacy Law (T)	2	2	Program student, Co-requisite: 536-110, 536-112, 536-120, 536-134, 536-138
536-120	Fundamentals of Reading Prescriptions (T), <i>1<sup>st</sup> 8 weeks</i>	4	2	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-134, 536-138
536-134	Pharmacy Benefits-Managing (T), <i>2<sup>nd</sup> 8 weeks</i>	2	1	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-120, 536-138
536-138	Pharmacy Community Clinical (C), <i>2<sup>nd</sup> 8 weeks</i>	12	2	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-120, 536-134
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Second Term</b>				
536-122	Pharmacology for Pharmacy Technician (T)	2	2	Program student, Co-requisite: 536-124, 536-126, 536-140, 536-141
536-124	Pharmacy Drug Dist. Systems (T) <i>1<sup>st</sup> 8 weeks</i>	2	1	Program student, 536-112, 536-134, 536-138, Co-requisite: 536-122, 536-126, 536-140, 536-141
536-126	Pharmacy Parenteral Admixtures (T)	3	3	Program student, Co-requisites: 536-122, 536-124, 536-140, 536-141
536-140	Pharmacy Hospital Clinical (C) <i>16 weeks</i>	6	2	Program student, Co-requisites: 536-122, 536-124, 536-126, 536-141
536-141	Hospital Pharmacy Lab (L)	4	2	Program student, Co-requisites: 536-122, 536-124, 536-126, 536-140
801-196	Oral/Interpersonal Communication (T)	3	3	
809-199	Psychology of Human Relations (T)	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 32**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

10-524-1

## Description

If you are dependable, patient, empathetic, able to do some lifting, have good communication skills, and are interested in a career in the health field, the Physical Therapist Assistant program could be for you.

The program prepares you to become a physical therapist assistant in a hospital, nursing home, rehabilitation center, or other health care facility. You would assist the physical therapist

- implement treatment programs.
- teach patients to perform exercises.
- conduct treatments using special equipment.

Physical therapist assistants are employed in physical therapy clinics, nursing care facilities, physicians' offices, general medical and surgical hospitals, and other health care settings. They also work for home health organizations and school systems. The need for physical therapist assistants is projected to grow due to the increased need for support personnel in health care and the shortage of physical therapists. This could be the program you're looking for!

The Physical Therapist Assistant program is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association (1111 North Fairfax St., Alexandria, VA, 22314; Telephone: 703-706-3245; E-mail: [accreditation@apta.org](mailto:accreditation@apta.org); website: [www.capteonline.org](http://www.capteonline.org)).

## Admission Requirements

- COMPASS® pre-entry assessment
  - 85 on Reading
  - 35 on Algebra
- Wisconsin criminal background check (requires a processing fee)
- Algebra, biology, chemistry – two semesters at high school level or one semester at postsecondary level with grade of “C” or better
- Completion of Basic Nursing Assistant class or proof of Certified Nursing Assistant including a clinical component
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Physical Therapist Assistant program. The Admissions Office will notify you at the appropriate time.
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

## Helpful Background

- Strong interpersonal and communication skills
- Entry-level computer skills
- Patient care skills

## Career Opportunities

Physical Therapist Assistant

## Program Tips

### Accreditation

The Physical Therapist Assistant program at Chippewa Valley Technical College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE) of the American Physical Therapy Association (1111 North Fairfax Street, Alexandria, VA 22314; phone 703-706-3245; e-mail: [accreditation@apta.org](mailto:accreditation@apta.org); website [www.capteonline.org](http://www.capteonline.org)).

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### CPR

Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

### Clinical Education

There are clinical education experiences during both semesters of the 2nd year of the program. These clinical experiences range from 3-6 weeks in length. This means that students will be working 40 hours/week for a specified number of weeks in physical therapy departments around the region. The distance to some clinical sites will require travel time and/or housing arrangements for the duration of the clinical experience.

### Licensure

- Is required in a majority of states (is required in Wisconsin and Minnesota)
- Must graduate from an accredited PTA program
- Must pass national licensure exam after graduation
- Must meet state's requirements for criminal background check

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
524-138	PTA Kinesiology 1	4	3	Program student, 806-177 or concurrent, Co-requisites: 524-139, 524-140,
524-139	PTA Patient Interventions	6	4	Program student, Co-requisites: 524-138, 524-140
524-140	PTA Professional Issues 1	2	2	Program student, Co-requisites: 524-138, 524-139
801-195	Written Communication	3	3	(See Prepared Learner Guide)
806-177	General Anatomy and Physiology	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>20 hrs.</b>	<b>16 cr.</b>	
<b>Second Term</b>				
524-141	PTA Kinesiology 2	6	4	524-138, 524-139, 524-140, 806-177, Co-requisites: 524-142 and 524-143
524-142	PTA Therapeutic Exercise	5	3	524-138, Co-requisites: 524-141 and 524-143
524-143	PTA Therapeutic Modalities	6	4	Co-requisites: 524-141 and 524-142
801-196	Oral/Interpersonal Communication <b>OR</b>	3	3	
801-198	Speech			
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>23 hrs.</b>	<b>17 cr.</b>	
<b>Third Term (Summer)</b>				
809-196	Introduction to Sociology	6	3	(See Prepared Learner Guide)
809-188	Developmental Psychology	6	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>12 hrs.</b>	<b>6 cr.</b>	
<b>Fourth Term</b>				
524-144	PTA Principles of Neuromuscular Rehabilitation <i>[Weeks 4-16]</i>	7	4	524-141, 524-142, 524-143, Co-requisites: 524-145, 524-146, 524-147
524-145	PTA Principles of Musculoskeletal Rehabilitation <i>[Weeks 4-16]</i>	7	4	524-139, 524-141, 524-142, Co-requisites: 524-144, 524-146, 524-147
524-146	PTA Cardiopulmonary and Integumentary Management <i>[Weeks 4-16]</i>	5	3	524-139, 524-141, 524-142, Co-requisites: 524-144, 524-145, 524-147
524-147	PTA Clinical Practice 1 <i>[Weeks 1-3]*</i>	40	2	524-141, 524-142, Co-requisites: 524-144, 524-145, 524-146
809-172	Intro to Diversity Studies <b>OR</b>	3	3	(See Prepared Learner Guide)
809-174	Social Problems			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Fifth Term</b>				
524-148	PTA Clinical Practice 2 <i>[Weeks 6-10]*</i>	40	3	524-147, Co-requisites: 524-149, 524-150, 524-151
524-149	PTA Rehabilitation Across the Lifespan <i>[Weeks 1-5]*</i>	6	2	524-147, Co-requisites: 524-148, 524-150, 524-151
524-150	PTA Professional Issues 2	4	2	524-147, Co-requisites: 524-148, 524-149, 524-151
524-151	PTA Clinical Practice 3 <i>[Weeks 11-16]*</i>	40	5	524-147, Co-requisites: 524-148, 524-149, 524-150
	Elective		3	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Radiography program may be a good match for you if you are

- efficient and accurate with an eye for detail.
- able to follow physicians' orders.
- compassionate.
- seeking a career helping others.
- physically able to meet the demands of the profession.
- good at science and math.

As a radiologic technologist, you will work with patients to produce radiographs that aid in the diagnosis of diseases. You will prepare patients for the exam, position them for the radiograph, and follow all regulations to protect yourself, your patients, and your co-workers from unnecessary exposure. This is a physically demanding career; you're on your feet for long periods and must be able to lift or turn patients and move equipment.

You'll learn through classroom, laboratory, and clinical education experiences. You'll work with patients as part of your training. When you graduate, you are eligible to write the ARRT national registry examination to become an RT(R), Registered Technologist (Radiography). The Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20N Wacker Drive, Suite 2840, Chicago, IL 60606-2901; phone 312-704-5300; fax 312-704-5304; e-mail mail@jrcert.org; website www.jrcert.org.

Employment prospects are good for registered technologists. Radiologic technologists willing to relocate and who are experienced in more than one imaging modality (x-ray, CT, MRI) procedure have the best employment opportunities.

The Radiography program could be your first step toward a rewarding career!

## Admission Requirements

- COMPASS® pre-entry assessment, 85 on Reading, 45 on Pre-Algebra 60 on Writing
- Wisconsin criminal background check (requires a processing fee)
- Algebra, chemistry, – two semesters at high school level or one semester at postsecondary level with grade of “C” or better
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.
- Completion of CVTC Basic Nursing Assistant class
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Radiography program. The Admissions Office will notify you at the appropriate time.
- Sufficient visual, communication, and motor skills and satisfactory intellectual and emotional functions to perform to the high standards maintained in this career. A detailed list is available with the Radiography program information at [www.cvtc.edu](http://www.cvtc.edu) or through an academic advisor.

## Helpful Background

- Advanced algebra and geometry
- Advanced science, physics, chemistry
- Anatomy
- Computer skills
- Interpersonal communications

Pregnancy during sequence may delay graduation date.

## Career Opportunities

- Radiologic Technologist (Radiographer)
- Mammography Technologist
- Magnetic Resonance Technologist
- Radiography Information System Technologist

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses. A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### CPR

Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

### Important

- Pregnancy during sequence may delay graduation date.
- Early or extended release from the program based upon faculty recommendation.
- An Eight-week summer session is included in this program. An eight-week internship is required the second summer of this program. relocation may be necessary for the internship period.

### Certification

For information regarding the American Registry of Radiologic Technologists, visit [www.arrt.org](http://www.arrt.org).

### General Anatomy and Physiology

Enroll one to two semesters prior to expected program entry. The student must obtain a minimum grade of “C”.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
526-149	Radiographic Procedures 1 (T, L)	7	5	Program student, 806-177 or concurrent
526-158	Introduction to Radiography (T, L)	4	3	Program student
526-159	Radiographic Imaging 1 (T, L)	4	3	Program student
526-168	Radiography Clinical 1 (L) <i>(64 hours)</i>	4	2	Program student, 806-177 or concurrent, Co-requisite: 526-149, 526-158, 526-159
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better. (See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>24</b>	<b>17 cr.</b>	
<b>Second Term</b>				
526-170	Radiographic Imaging 2 (T, L)	4	3	Program student, 526-159
526-191	Radiographic Procedures 2 (T, L)	7	5	Program student, 526-149, 806-177
526-192	Radiography Clinical 2 (C) <i>[192 hours]</i>	12	3	Program student, 526-168. Co-requisites: 526-170, 526-191
804-107	College Mathematics	4	3	(See Prepared Learner Guide)
809-195	Economics <b>OR</b>	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society <b>OR</b>			(See Prepared Learner Guide)
809-172	Intro to Diversity Studies			(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>30</b>	<b>17 cr.</b>	
<b>Third Term (Summer)</b>				
526-193	Radiography Clinical 3 (C) <i>[128 hours]</i>	16	3	526-192
809-198	Introduction to Psychology	6	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>22</b>	<b>6 cr.</b>	
<b>Fourth Term</b>				
526-194	Imaging Equipment Operation (T)	3	3	Program student. 526-158 (526-159 or concurrent)
526-196	Modalities (T)	3	3	Program student. or permission from Program Director
526-199	Radiography Clinical 4 (C) <i>[256 hours]</i>	16	3	526-193
801-195	Written Communication	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>12 cr.</b>	
<b>Fifth Term</b>				
526-189	Radiographic Pathology (T)	1	1	Program student. 526-191
526-190	Radiography Clinical 5 (C) <i>[256 hours]</i>	16	2	Program student. 526-199
526-195	Radiographic Quality Analysis (T, L)	3	2	Program student. 526-170, 526-191. Corequisite 526-189
526-197	Radiation Protection and Biology (T)	3	3	Program student. 526-158, 526-194 (526-170 or concurrent)
801-196	Oral/Interpersonal Communication	3	3	
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>26</b>	<b>14 cr.</b>	
<b>Sixth Term (Summer)</b>				
526-198	Radiography Clinical 6 (C) <i>[256 hours]</i>	32	2	526-190
526-174	ARRT Certification Seminar	3	2	Program student, or permission from Program Director
<b>Total Semester Hrs./Week and Total Credits</b>		<b>35</b>	<b>4 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 70

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

31-517-1

## Description

If this is how you describe yourself, you might be a good candidate for the Renal Dialysis Technician program:

- Seeking a career in the health field
- Compassionate
- Good “people” skills
- Good technical skills
- Accurate, alert, and organized
- Able to work on your feet for long hours
- Enjoy working as part of a team
- Able to adhere to high standards of patient care

As a renal dialysis technician, you will operate machines used for hemodialysis, a process that cleanses the blood of people with chronic kidney disease. You will provide patient care under the supervision of a registered nurse. Your specific job responsibilities also would include

- troubleshooting and basic maintenance of dialysis machines.
- observing and monitoring patients on dialysis.
- performing venipuncture of dialysis access.
- assisting in maintaining a safe and clean environment.
- collaborating with the registered nurse for patient care.

This program provides you with specific technical knowledge and skills and an understanding of principles and concepts related to chronic kidney disease and the dialysis process. It is certified by The Board of Nephrology Examiners Nursing and Technology, Inc. (BONENT). Dialysis patient care technicians are required by the Centers of Medicare and Medicaid (CMS) to become certified with 18 months of working in a dialysis unit.

The number of people relying on dialysis is increasing about 3 percent a year. The medical field needs competent, trained renal dialysis technicians. Employment opportunities are available throughout the U.S. This could be the start of a very rewarding career for you!

## Admission Requirements

- COMPASS® pre-entry assessment, 80 on Reading, 45 on Pre-Algebra
- Wisconsin criminal background check (requires a processing fee)
- Biology-two semesters at high school level or one semester at postsecondary level with grade of “C” or better
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and on-line course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Renal Dialysis Technician program. The Admissions Office will notify you at the appropriate time.
- Submit proof of completion of Nursing Assistant training that includes a clinical component. Acceptable documentation is a Nurse Aide Directory card, a transcript or diploma from a technical college, training agency or nursing home.

## Helpful Background

- Strong science background
- Ability to work as part of a team
- Strong interpersonal and communication skills
- Critical thinking skills

## Career Opportunities

- Renal Dialysis Technician
- Patient Care Technician

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### Criminal Background

This is a program requirement, but beyond that, there could be the possibility of being declined for program admission based on a criminal history. If a student is declined based on criminal background, they could be in a situation where they may not be able to enter or finish the clinical courses, and hence would not be able to graduate.

If you have any significant problems with your criminal background, you need to contact one of the health academic advisors as soon as possible to have the background evaluated.

### Clinical Practicum Requirements (must be current through clinical)

- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.
- Approval of program faculty
- Compliance with WI Caregiver Law
- Program Health Requirements are met; annual TB Test
- Reliable transportation will be required
- Students may be responsible for cleanup of all bodily fluids. Employers prefer patient care experience.
- Clinical sites may be located 1½ hours from Eau Claire and change yearly. The sites may include Wausau, Marshfield, Rice Lake, Eau Claire, Chippewa Falls, Stanley, Tomah and Menomonie. Clinical may start as early as 5:00 a.m. Students will not be able to work fulltime when in clinicals. Students may be required to rotate to two sites.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b>First Term</b>			
501-101	Medical Terminology	3	3	
517-320	Intro to Renal Dialysis (T, L) <i>[1<sup>st</sup> 8 wks.]</i>	12	3	Program student, (501-101, (801-196 or 801-351) and (809-198 or 809-199) or concurrent), Co-requisite: 517-321
517-321	Principles of Renal Dialysis 1 (T, L, C), <i>[2<sup>nd</sup> 8 wks.]</i>	18	4	Program student, (517-320 or concurrent)
801-196	Oral/Interpersonal Communication	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology <b>OR</b>	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations			(See Prepared Learner Guide)
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>16 cr.</b>	
	<b>Second Term</b>			
517-302	Renal Failure and Support Therapies (T)	6	3	517-321, (Co-requisite: 517-304, 517-322, 517-323, 517-324)
517-304	Hemodialysis Lab Procedures (L) <i>[1<sup>st</sup> 8 weeks]</i>	4	1	517-321, (Co-requisite: 517-302, 517-322, 517-323, 517-324)
517-322	Principles of Renal Dialysis 2 (T)	6	3	517-321, (Co-requisite: 517-302, 517-304, 517-323, 517-324)
517-323	Clinical Practicum 1 (C) <i>[1<sup>st</sup> 8 weeks]</i>	16	2	517-321, (Co-requisite: 517-302, 517-304, 517-322, 517-324)
517-324	Clinical Practicum 2 (C) <i>[2<sup>nd</sup> 8 weeks]</i>	24	3	517-323 or concurrent
	<b>Total Semester Hrs./Week and Total Credits</b>		<b>12 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 28

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Residential Construction program can help you prepare for a variety of careers in the home building industry. This field needs people with physical abilities and good analytical skills:

- Excellent manual dexterity
- Good eye-hand coordination
- Good sense of balance
- Good business sense and math skills
- Well-developed organizational skills
- Good attention to detail

During your first term you'll learn the basics of the residential construction industry:

- Construction safety
- Construction concepts
- Blueprint reading
- Materials and fasteners
- Rough framing
- Stair systems
- Roof framing
- Roofing

The second term of instruction builds on that background:

- Estimating (residential)
- Construction planning
- Sustainability
- Doors and windows
- Energy Conservation
- Exterior finish/Interior finish
- Cabinet installation

You'll also receive instruction in incorporating "green" technologies and materials in construction projects, and Wisconsin Energy Star specifications. This program includes plenty of hands-on experience. The main lab project will be to help construct a full-scale, high-quality home on an actual job site under the close supervision of an experienced instructor.

The construction industry fluctuates with the strength of the economy, but the employment outlook for skilled people with training is expected to be good. You have options!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- Mathematics
- Science
- Industrial technology courses

## Career Opportunities

- Carpenter (General)
- Carpenter (Foreman)
- Carpenter (Interior Finish)
- Carpenter (Exterior Finish)

- Carpenter (Rough)
- Carpenter (Remodeling)
- Lumberyard Laborer
- Lumberyard Salesperson
- Construction (Job Coordinator)

## Program Tips

### Early Start - 475-100 Construction Safety

All students are required to successfully complete this two-week course, in August, prior to other fall semester program courses.

### First Aid-CPR Certification

CPR at the level of the American Heart Association – Healthcare Provider or the American Red Cross – Professional Rescuer level is strongly recommended.

### Tool Set Purchase

You will be required to purchase an approved tool set through CVTC that costs approximately \$1100. These tools will be used throughout the program.

### Program Locations

- Eau Claire – Business Education Center (Clairemont Avenue)
- River Falls Campus

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b><u>First Term</u></b>				
475-100	Construction Safety [2 weeks prior to first semester]	16/2	1	Program student
475-110	Framing Methods/Building the Envelope	4	4	Program student; 475-100 or concurrent; Corequisite 475-111, 475-112, 475-115
475-111	Framing Methods/Building the Envelope Lab	16	5	Program student; 475-100 or concurrent; Corequisite 475-110, 475-112, 475-115
475-112	Construction Basics and Print Reading	4	2	Program student; 475-100 or concurrent; Corequisite 475-110, 475-111, 475-115
475-115	Roof Systems and Stairs	6	3	Program student; 475-100 or concurrent; Corequisite 475-110, 475-111, 475-112
801-196	Oral/Interpersonal Communication	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>18 cr.</b>	
<b><u>Second Term</u></b>				
475-120	Finish Carpentry Interior and Exterior	4	4	475-100, 475-110, 475-111, 475-112, 475-115; Corequisite 475-121, 475-124, 475-125
475-121	Finish Carpentry Interior and Exterior Lab	16	5	475-100, 475-110, 475-111, 475-112, 475-115; Corequisite 475-120, 475-124, 475-125
475-124	Construction Planning	4	2	475-100, 475-110, 475-111, 475-112, 475-115; Corequisite 475-120, 475-121, 475-125
475-125	Estimating Residential Construction	6	3	475-100, 475-110, 475-111, 475-112, 475-115; Corequisite 475-120, 475-121, 475-124
806-112	Principles of Sustainability	4	3	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 35

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

The Respiratory Therapy program could be a good match for you if you are

- interested in a health field career and eager to be part of a health care team.
- a compassionate person who wants to help others.
- able to communicate effectively and with sensitivity when needed.
- willing and able to meet the high standards and ethics of all health care professionals.

At graduation, you will be qualified for admission to entry-level (Certified Respiratory Therapist – CRT – which is required to obtain a license to practice) and advanced practitioner examinations to become a registered respiratory therapist (RRT). As a respiratory therapist, you will be part of a team evaluating, treating, and managing patients with respiratory illnesses and other cardiopulmonary disorders. You'll also be involved in clinical decision making and patient education.

You'll have a wide range of responsibilities:

- Assess the cardiopulmonary status of patients
- Draw blood samples
- Perform blood gas analysis
- Perform pulmonary function testing
- Initiate ordered respiratory care
- Evaluate and monitor patient responses to care
- Provide patient, family, and community education
- Participate in life support activities as required

Faster-than-average employment growth is projected for this career field. This program offers you rewarding career opportunities!

This program is accredited by the Commission on Accreditation of Allied Health Education Programs, on recommendation of the Committee on Accreditation for Respiratory Care (CoARC) <http://coarc.com>.

## Admission Requirements

- COMPASS® pre-entry assessment
  - 85 on Reading
  - 35 on Algebra
- Wisconsin criminal background check (requires a processing fee)
- Algebra, Chemistry, Biology-two semesters at high school level or one semester at postsecondary level with grade of "C" or better
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Respiratory Therapist program. The Admissions Office will notify you at the appropriate time with a specified date.
- Submit proof of completion of Nursing Assistant training that includes a clinical component. Acceptable documentation is a Nurse Aide Directory card, a transcript or diploma from a technical college, training agency or nursing home.

## Helpful Background

- Math and science
- Good reading skills
- Strong interpersonal skills

*This is an intense program demanding a strong commitment to success. It is recommended that you limit your outside employment to 16 hours a week or less to allow yourself enough time to study and complete assignments.*

*You will need to travel to clinical sites, within a two hour radius of the Eau Claire Campus, which may require an overnight stay. Travel and lodging costs will be your responsibility.*

## Career Opportunities

- Respiratory Care Practitioner
- Respiratory Care Therapist
- Pulmonary Function Technologist

## Program Tips

Before applying to the program, students are strongly encouraged to meet with the academic advisor and/or Program Director. Once accepted as a program student an appointment will be scheduled with the Program Director.

### Full Time Program

Respiratory Therapy is a full time program. When a student is admitted as a program student they must complete the program as outlined on the program requirements sheet.

### Program Emphasis

The RT program is heavily science/math-based with a strong emphasis on the physical structure and function of the human body. Failure to pass General Anatomy and Physiology will prevent a student from continuing with the rest of the program courses.

### Criminal Background Check

Students with a criminal background may be denied clinical placement(s). This denial will result in not being able to attend clinical(s) or graduate from the program.

If you have any significant problems with your criminal background, you need to contact a CVTC counselor as soon as possible to have the background evaluated.

### National Board for Respiratory Care (NBRC)

The primary purposes of the NBRC and its 31-member Board of Trustees are to provide high quality voluntary credentialing examinations for practitioners of respiratory therapy and pulmonary function technology; establish standards to credential practitioners to work under medical direction; issue certificates to and prepare a directory of credentialed individuals; advance medicine by promoting use of respiratory care in treating human ailments; support ethical and educational standards of respiratory care; and, cooperate with accrediting agencies to support respiratory care education.

Upon graduation you will take a Certification for Respiratory Therapy (CRT) Examination which you will need to pass to apply for a license. You will not be able to practice as a Respiratory Therapist without a license. The cost for this examination is \$190.00.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
501-101	Medical Terminology (T)	3	3	
515-111	Respiratory Survey (T, L)	4	3	Program student
515-171	Respiratory Therapeutics 1 (T, L)	4	3	Program student, 515-111, 806-177 or concurrent
801-196	Oral/Interpersonal Communication (T)	3	3	
806-177	General Anatomy and Physiology (T, L)	5	4	High School or College Chemistry, (Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	
<b>Second Term</b>				
515-172	Respiratory Therapeutics 2 (T, L)	4	3	(515-171 or concurrent)
515-173	Respiratory Pharmacology (T)	3	3	515-111, 806-177
515-174	Respiratory/Cardiac Physiology (T)	3	3	Program student, 806-177
515-176	Respiratory Disease (T, L)	4	3	515-111, 806-177
809-198	Introduction to Psychology (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Third Term (Summer)</b>				
515-175	Respiratory Clinical 1 (C)	12	2	Program student, 515-173, 515-176, 515-111, (501-101, 515-171, 515-172, 515-174 or concurrent)
806-197	Microbiology	10	4	806-177
<b>Total Semester Hrs./Week and Total Credits</b>			<b>6 cr.</b>	
<b>Fourth Term</b>				
515-112	Respiratory Airway Management (T, L) [1 <sup>st</sup> 8 weeks]	6	2	Program student, 515-172, 515-174, 515-175, 806-197
515-113	Respiratory Life Support [2 <sup>nd</sup> 8 weeks]	8	3	Program student, 515-172, 515-175, (515-112 or concurrent)
515-178	Respiratory Clinical 2 (C) [1 <sup>st</sup> 8 weeks]	18	3	Program student, 515-175, 806-197
515-179	Respiratory Clinical 3 (C) [2 <sup>nd</sup> 8 weeks]	18	3	Program student, (515-178 or concurrent)
801-195	Written Communication (T)	3	3	(Prepared Learner Guide)
809-195	Economics (T)	3	3	(Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>			<b>17 cr.</b>	
<b>Fifth Term</b>				
515-180	Respiratory Neo/Peds Care (T, L)	3	2	Program student, Co-requisites 515-112, 515-113
515-181	Respiratory/Cardio Diagnostics (T, L)	4	3	Program student, 515-113, 515-176
515-182	Respiratory Clinical 4 (C) [1 <sup>st</sup> 8 weeks]	18	3	Program student, 515-112, 515-179
515-183	Respiratory Clinical 5 (C) [2 <sup>nd</sup> 8 weeks]	18	3	Program student, 515-182 or concurrent
809-196	Introduction to Sociology (T)	3	3	(Prepared Learner Guide)
515-145	Advanced Respiratory Care Topics (T)	2	2	Program student, 515-112, 515-178, 515-179
<b>Total Semester Hrs./Week and Total Credits</b>			<b>16 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 70**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you'd like to be part of a surgical team in an operating room, the Surgical Technologist program could be for you. This career area needs professionals who are

- able to maintain the fast pace of the environment.
- willing and able to report for duty when on call.
- physically able to transfer patients.
- able to work standing for long periods of time.
- able to maintain confidentiality.
- able to respond quickly and accurately in times of stress.

You will be a part of a surgical team before, during, and after procedures:

- Gather supplies and equipment
- Open sterile supplies
- Scrub, gown, and glove before procedures
- Organize sterile supplies and equipment
- Assist surgeon and assistant don gown and gloves
- Assist with draping the patient
- Pass instruments and assist with procedures
- Clean up OR suite and transfer patients

The Surgical Technologist program includes classroom and clinical practice. Clinical sites include facilities in Eau Claire and Chippewa Falls. You may be required to relocate during your four-week internship experience.

Job opportunities are best for technologists who are certified. When you complete this program, you will be awarded a diploma as a Surgical Technologist and will take the national Surgical Technologist Certification examination. This could be the program you need to begin a truly rewarding career!

The Surgical Technologist program is a member of and accredited by the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting, 6W. Dry Creek Circle, Suite No. 110, Littleton, CO 80120; phone 303-741-3655; website [www.arcst.org](http://www.arcst.org).

## Admission Requirements

- COMPASS® pre-entry assessment
  - 80 on Reading
  - 45 on Pre-algebra
- Wisconsin criminal background check (requires a processing fee)
- Biology, chemistry – two semesters at high school level or one semester at postsecondary level with grade of “C” or better
- Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.
- A pre-entrance health history and physical examination must be on file three weeks before you enter the core courses of the Surgical Technologist program. The Admissions Office will notify you at the appropriate time.

## Helpful Background

- Ability to work as part of a team
- Excellent oral and written communication skills
- Prior health care experience
- Prior health care training (example: Central Service Technician program)
- Possess manual dexterity and fine motor coordination

*This program is physically demanding. For a list of physical requirements, call an academic advisor.*

## Career Opportunities

- Certified Surgical Technologist (CST)
- Ambulatory Surgery Aide/Technician
- Diagnostic Procedures Scrub Technologist
- Podiatric Assistant
- Gastroenterology Technologist
- Private Scrub Technologist
- Veterinary Surgical Assistant
- Anesthesia Technician
- Cardiac Cath Lab Surgical Technologist
- Central Sterilization Technician
- Obstetrical Technician

## Program Tips

### Physical Exam and Criminal Background Forms Requirement

The Admissions Office will mail specific physical exam forms to you prior to core course program entry. The completed exam forms must be on file three weeks prior to entering the core courses of your program. The program director will return your criminal background forms to you when you enter the core courses.

A copy of your physical exam form and criminal background check must be in your clinical file, as they will be checked each term before you will be authorized to go to each clinical setting.

### Criminal Background Check

This is a program requirement, but beyond that, there could be the possibility of being declined for program admission based on a criminal history. Also, even if accepted, the program handbook states that all students must be able to rotate to all clinical sites. If a student is declined based on criminal background, they could be in a situation where they may not be able to finish the clinical courses, and hence would not be able to graduate.

If you have any significant problems with your criminal background, you need to contact a CVTC counselor as soon as possible to have the background evaluated.

### CPR

Obtain and maintain current CPR certification by the American Heart Association (Healthcare Provider level) or the American Red Cross (Professional Rescuer level). Proof must be verified with a current CPR card. Class rosters, letters from instructors or employers, and online course certification are not acceptable. Your instructor will ask for a copy of your card on the first day of your clinical courses.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term (Summer)</b>				
501-101	Medical Terminology	6	3	
806-177	General Anatomy and Physiology	10	4	(See Prepared Learner Guide) High school chemistry with a "C" or better
<b>Total Semester Hrs./Week and Total Credits</b>		<b>16</b>	<b>7 cr.</b>	
<b>Second Term</b>				
512-327	ST: Introduction to Surgical Technology, (T, L) [1 <sup>st</sup> 8 weeks]	14	4	Program student, 501-101, 806-177, Co-requisite: 512-328, 512-330, 512-331A
512-328	ST: Fundamentals 1, (T, L), [1 <sup>st</sup> 8 weeks]	14	4	Program student, 501-101, 806-177; Co-requisite: 512-327, 512-330, 512-331A
512-331A	Surgical Procedures A, (T, L), [2 <sup>nd</sup> 8 weeks]	7	2	Program student, 501-101, 806-177; Co-requisite: 512-327, 512-328, 512-330
512-330	ST: Clinical 1, (C), [2 <sup>nd</sup> 8 weeks]	15	3	Program student, 501-101, 806-177, (512-327, 512-328 or concurrent), Co-requisite: 512-331A
801-351	Applied Communication	3	2	
<b>Total Semester Hrs./Week and Total Credits</b>			<b>15 cr.</b>	
<b>Third Term</b>				
512-329	ST: Fundamentals 2 (T,L) [2 <sup>nd</sup> 8 weeks]	6	2	Program student, 512-328, (512-331B, 512-332 or concurrent), Co-requisite: 512-334
512-331B	Surgical Procedures B (T) [1 <sup>st</sup> 8 weeks]	7	2	512-327, 512-328, 512-330, 512-331A, (512-329, 512-332, 512-334, or concurrent)
512-332	ST: Clinical 2, (C), [1 <sup>st</sup> 8 weeks]	24	4	512-330, (512-329 or concurrent), Co-requisite: 512-331B, 512-334
512-334	ST: Clinical 3, (C), [2 <sup>nd</sup> 8 weeks]	24	4	512-331A, (512-332, 801-351 or concurrent)
806-301	Basic Microbiology, (T, L)	4	2	Spring only
<b>Total Semester Hrs./Week and Total Credits</b>			<b>14 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 36

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

## Description

If you've completed an apprenticeship program in Wisconsin, the Technical Studies - Journeyworker program can lead to an associate degree designed around your individual needs.

This program could be a good match for you if you're seeking career advancement in your professional field. You design your own program so you can meet your educational goals. You may be eligible for advanced standing based on training you've already completed.

If you completed your apprenticeship program outside of Wisconsin, you may still be eligible for the Technical Studies - Journeyworker program.

Past graduates have created programs that helped them gain supervisory and management roles in their chosen career area. The Technical Studies - Journeyworker program may be just what you need to help you take your career to the next level.

## Admission Requirements

- COMPASS® pre-entry assessment
- Submit a copy of Wisconsin Journey level Certificate to the Admissions Office at CVTC.
- Meet with the appropriate academic advisor to begin developing your Associate Degree Technical Studies - Journeyworker Program Planner. Call the Counseling Center at 715-833-6346 to schedule an appointment.
- Your Program Plan must be submitted to and approved by the Individualized Technical Studies Committee.
- Documented approval of Individualized Program Plan will be submitted to the Admissions Office by the Individualized Technical Studies Committee

## Helpful Background

- Ability to write at college level for class reports
- Basic math skills
- Oral and interpersonal communication skills
- Willingness to learn

## Program Tips

A minimum of 25 percent of total program requirements must be earned through CVTC.

If a student does not enroll in any courses at CVTC for two or more consecutive semesters, the student will be required to reapply with Admissions. Students must abide by any changes in admission requirements and degree requirements.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	<b>First Term</b> Wisconsin Journey Certificate - 400 hours <b>Total Semester Hrs./Week and Total Credits</b>		39 <b>39 cr.</b>	
804-107 804-123 804-133	<b>Second Term</b> College Mathematics <b>OR</b> Math with Business Applications <b>OR</b> Math & Logic Elective <b>Total Semester Hrs./Week and Total Credits</b>		3   3 <b>6 cr.</b>	(Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide)
809-195 809-196 809-197 809-198 809-199	<b>Third Term</b> Economics <b>OR</b> Introduction to Sociology <b>OR</b> Contemporary American Society Introduction to Psychology <b>OR</b> Psychology of Human Relations <b>Total Semester Hrs./Week and Total Credits</b>	3   3	3   3 <b>6 cr.</b>	(Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide)
801-195 801-196 801-197 801-198	<b>Fourth Term</b> <i>Choose 6 credits from the following:</i> Written Communication Oral/Interpersonal Communication Technical Reporting Speech	3 3 3 3	3 3 3 3	(Prepared Learner Guide)  801-195 with a C or better
809-195 809-196 809-197 809-198 809-199	<i>Choose 3 credits from the following:</i> Economics Introduction to Sociology Contemporary American Society Introduction to Psychology Psychology of Human Relations <b>Total Semester Hrs./Week and Total Credits</b>	3 3 3 3 3	3 3 3 3 3 <b>9 cr.</b>	(Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide) (Prepared Learner Guide)

MINIMUM PROGRAM CREDITS REQUIRED = 60

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

*Offered in Eau Claire. This program accepts new students on a year-round basis. The daytime program is eight (8) weeks in length and begins every August, October, January, March*

**30-458-1**

## Description

The trucking industry needs trained professionals with the skills and personal characteristics to get the job done:

- Independent, but able to follow regulations
- Excellent driving skills
- Responsible; concerned for safety
- Able to follow directions

If that's how you'd describe yourself, the Truck Driving program could be the training you've been looking for. Your course will provide you with the knowledge you need to begin your truck driving career:

- Federal and state regulations
- How to maintain the driver's logbook
- Safe operating procedures
- Loading and securing loads
- Engines, transmissions, and differentials
- Map-reading
- Handling related tools and equipment
- Bills of lading, hazardous materials

Through hands-on experiences, you'll receive training patterned after the day-to-day demands of this career:

- Shifting 9-, 10-, and 13-speed transmissions
- Conducting the pre-trip inspection
- Coupling and uncoupling
- Backing maneuvers
- Operating tractors and 48-/53-foot trailers
- Operating a forklift

You may also gain training to give you a competitive edge in your career, including a Class "A" Commercial Driver's License with air brakes, hazardous materials, doubles/triples, and tanker endorsements.

You will also gain advanced training in off-road recovery, evasive maneuvers, controlled braking, and skid control.

This program could be what you need to begin a rewarding career!

## Admission Requirements

- Applicants without a high school diploma or GED®/HSED must take the COMPASS® reading assessment and score a minimum of 62
- Verification of Valid Driver's (Operator's) License and Controlled Substance Testing form must be submitted
- Required Information Session (RIS)
- Age 18 or older
- You must have a current DOT physical and negative drug test on file with CVTC before you will be allowed to operate school vehicles.

Note: Driving record and criminal history will impact your employment opportunities.

## Helpful Background

- Strong basic mathematics
- Strong communication skills
- Good reading and comprehension skills
- Good penmanship
- Mechanical background

## Career Opportunities

- Local: semi tractor/trailer driving; shorter routes
- Over-the-Road: semi tractor/trailer driving (long distance), absences from home of a week or more at a time

# Program Requirements

Course Number	Course Title	Hours/Week	Credits	Prerequisite(s)/Comments
	<b><u>First Term</u></b>			
458-341	Truck Driving 1 (T, L)	-	4	Co-requisite: 458-342, 458-343, 458-344, age 18, Program student
458-342	Truck Driving 2 (T, L)	-	3	Co-requisite: 458-341, 458-343, 458-344, age 18, Program student
458-343	Truck Driving 3 (T, L)	-	3	Co-requisite: 458-341, 458-342, 458-344, age 18, Program student
458-344	Truck Driving 4 (T, L)	-	2	Co-requisite: 458-341, 458-342, 458-343, age 18, Program student
	<b>Total</b>	<b>50 hrs./wk.</b>	<b>12 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED =12**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

*Offered in Eau Claire*

**31-442-1**

*August and January entry dates for full-time students and August entry date for part-time evening*

## Description

If you enjoy problem solving as well as working with your hands, the Welding program could be for you. It combines theory, demonstrations, and hands-on experiences to prepare you to take a welding project from blueprints through final inspection. The Welding program offers training in basic welding techniques you'll rely on in your career:

- Oxyacetylene welding and cutting
- Shielded metal arc welding (SMAW, stick welding)
- Gas metal arc welding (GMAW, MIG, wire-feed)
- Flux-cored arc welding (FCAW)
- Gas tungsten arc welding (GTAW, TIG)

Your training will include advanced welding techniques:

- Robotic welding – set-up, programming, operation, and fixturing for automatic welding
- CNC plasma cutting – using a computer program to control the cutting on an automated plasma cutter
- CNC equipment processes
- Welding certification

You'll also learn plasma arc cutting, blueprint reading, layout and fabrication techniques, and metallurgy concepts.

Your job prospects are best when you're trained in the latest technologies – and that's what CVTC's Welding program has to offer you: instruction and skill development to meet the demands of today's workplace. This could be the career area you've been looking for!

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school industrial education courses including welding, metals, and machine shop
- Math

## Career Opportunities

- Boilermaker Union
- Ironworker Union
- Production Welder
- Maintenance Welder
- Structural Welder
- Stainless Steel Welding
- Pipe Welder
- Sheet Metal Welder
- Welding Inspector
- Welding Foreman

## Program Tips

### Testing your Interest in Welding

To test your interest in this career and to build preliminary skills, you may consider taking 442-314 Related Welding for 2 credits. For more information, please contact the academic advisor 715-833-6346.

### Summer Session

This program operates on a year-round basis; therefore, summer session attendance is required in addition to regular school year attendance. Students that receive financial aid must reapply for financial aid for the summer session. If you interrupt your program in any semester, you will be required to reapply to the program and will be admitted on a space-available basis. In addition, this may delay program completion.

### Tool Set Purchase

You will be required to purchase an approved tool set that costs approximately \$600 through CVTC. These tools will be used throughout the program.

### Labs

The Welding program does not include an open lab. The lab operates on a set schedule.

### Program Times

Full-time:

August - July - 7 a.m. - 5 p.m.

January - December - noon - 8 p.m.

Part-time

August start - 4 semesters - 5 p.m. - 10 p.m.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b><u>First Term</u></b>				
421-386	Welding-Blueprint Reading	4	2	
442-351	Weld Theory & Cutting Processes	4	2	Program student
442-361	Basic Arc Welding	8	4	Program student, 421-386, 442-351 or concurrent
442-362	Basic Wire-Feed Welding	8	4	Program student, 421-386, 442-351, 442-361 or concurrent
457-380	Layout and Fabrication I/CNC	6	3	Program student, 421-386, 442-351 or concurrent
442-380	Industrial Skills – Welders	4	2	Program or pre-program student
<b>Total Semester Hrs./Week and Total Credits</b>		<b>34</b>	<b>17 cr.</b>	
<b><u>Second Term</u></b>				
442-301	Metallurgy	4	2	Program student, 442-351, 442-361 [442-362 or concurrent]
442-360	Robotic Welding	4	2	Program student, 442-363 or concurrent
442-363	Advanced Wire-Feed Welding	8	4	Program student, 442-362
442-366	Advanced Arc Welding	8	4	Program student, 443-363, 442-361 or concurrent
457-381	Layout and Fabrication II	4	2	Program student, 457-380, 442-363, 442-366 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>		<b>28</b>	<b>14 cr.</b>	
<b><u>Third Term (Summer)</u></b>				
442-364	Gas Tungsten Arc Welding	16	4	Program student, 442-361, 442-362 or concurrent
442-365	Welding Rigging/Forklift Training	8	2	Program student, or instructor approval
<b>Total Semester Hrs./Week and Total Credits</b>		<b>4</b>	<b>6 cr.</b>	

**MINIMUM PROGRAM CREDITS REQUIRED = 37**

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

Offered in Eau Claire • August entry date

32-457-1

## Description

This two-year technical diploma in Welding Fabrication will prepare individuals to enter the fields of welding, metal fabrication, production manufacturing, construction, maintenance welding, plus many other opportunities in the career of working with metals.

Students will gain skills and knowledge in advanced welding processes, along with the traditional processes of SMAW, GMAW, FCAW, GTAW, and Oxy-Fuel welding and cutting. Students will learn to operate/program manual and CNC cutting and forming equipment. Additional areas of study include blueprint reading, computer drafting software, and fabrication techniques.

Students will operate and perform advanced manufacturing processes and equipment such as welding robotics, water-jet cutting and more. Students will also gain knowledge of welding codes, inspection techniques, and the certification process in the welding/fabrication field.

This program will prepare the student for the demands of the ever-advancing skill sets needed in the manufacturing and construction industries of today.

## Admission Requirements

- COMPASS® pre-entry assessment

## Helpful Background

- High school industrial education courses including welding, metals, and machine shop
- Math

## Career Opportunities

- Boilermaker Union
- Ironworker Union
- Production Welder
- Maintenance Welder
- Structural Welder
- Stainless Steel Welding
- Pipe Welder
- Sheet Metal Welder
- Welding Inspector
- Welding Foreman

## Program Tips

### Testing your Interest in Welding

To test your interest in this career and to build preliminary skills, you may consider taking 442-314 Related Welding for two credits. For more information, please contact the academic advisor at 715-833-6346.

### Summer Session

One year full time program operates on a year-round basis; therefore, summer session attendance is required in addition to regular school

year attendance. Students that receive financial aid must reapply for financial aid for the summer session. If you interrupt your program in any semester, you will be required to reapply to the program and will be admitted on a space-available basis. In addition, this may delay program completion.

### Tool Set Purchase

You will be required to purchase an approved tool set that costs approximately \$600 through CVTC. These tools will be used throughout the program.

### Labs

The Welding program does not include an open lab. The lab operates on a set schedule.

### Program Time

August start - 5 semesters - 10 a.m. - 10 p.m.

# Program Requirements

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
<b>First Term</b>				
421-386	Welding-Blueprint Reading	4	2	
442-351	Weld Theory & Cutting Processes	4	2	Program student
442-361	Basic Arc Welding	8	4	Program student, 421-386, 442-351 or concurrent
442-362	Basic Wire-Feed Welding	8	4	Program student, 421-386, 442-351, 442-361 or concurrent
457-380	Layout and Fabrication I/CNC	6	3	Program student, 421-386, 442-351 or concurrent
442-380	Industrial Skills – Welders	4	2	Program or pre-program student
<b>Total Semester Hrs./Week and Total Credits</b>		<b>34</b>	<b>17 cr.</b>	
<b>Second Term</b>				
442-301	Metallurgy	4	2	Program student, 442-351, 442-361 [442-362 or concurrent]
442-360	Robotic Welding	4	2	Program student, 442-363 or concurrent
442-363	Advanced Wire-Feed Welding	8	4	Program student, 442-362
442-366	Advanced Arc Welding	8	4	Program student, 442-363, 442-361 or concurrent
457-381	Layout and Fabrication II	4	2	Program student, 457-380, 442-363, 442-366 or concurrent
<b>Total Semester Hrs./Week and Total Credits</b>		<b>28</b>	<b>14 cr.</b>	
<b>Third Term (Summer)</b>				
442-364	Gas Tungsten Arc Welding	16	4	Program student, 442-361, 442-362, or concurrent
442-365	Welding Rigging/Forklift Training	8	2	Program student, or instructor approval
<b>Total Semester Hrs./Week and Total Credits</b>		<b>16</b>	<b>6 cr.</b>	
<b>Fourth Term</b>				
606-161	CAD, Basics	4	3	
457-360	Advanced Processes	4	2	Program student, Co requisite: 457-361, 625-160, 442-350
457-361	Advanced Fabrication 1	4	2	Program student, 442-365 (Co requisite: 442-350, 457-360, 625-160)
625-160	Core Manufacturing Skills	2	2	Program student
442-350	Pipe Welding	8	4	Program student, 442-364 (Co requisite: 457-360, 457-361, 625-160)
804-107	College Mathematics	3	3	(See Prepared Learner Guide)
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>16 cr.</b>	
<b>Fifth Term</b>				
457-370	Advanced Fabrication 2	6	3	Program student, 457-361, 606-161
457-371	Advanced Robotic Welding	4	2	Program student, 457-360
457-372	Non-Destructive Testing (NDT) & Welding Codes	4	2	Program student
442-373	Welding Applications	8	4	Program student, 442-350, 457-372 or concurrent
801-196	Oral/Interpersonal Communication	3	3	
<b>Total Semester Hrs./Week and Total Credits</b>		<b>25</b>	<b>14 cr.</b>	

MINIMUM PROGRAM CREDITS REQUIRED = 67

For the latest program information visit [www.cvtc.edu](http://www.cvtc.edu).

# Apprenticeships

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Apprenticeship enables a person to enter a skilled occupation and achieve journey level status through on-the-job skill development and regular classroom related instruction. In a formalized training program, the student “earns a wage as they learn.” On-the-job training (OJT) is combined with related instruction over a period of years to attain the journey level status. An apprentice is a person registered by a legal agreement between an employer, the Bureau of Apprenticeship Standards, and the Employee. The apprenticeship contract establishes the details between the parties whereby he/she learns a skilled craft or trade in exchange for his/her services.

## **Apprentice Trade Instruction Available at CVTC:**

- Electric Line Worker
- Electrician (construction)
- Plumber
- Sheet Metal
- Steamfitter

For information and application forms, you may contact any of the following: CVTC Apprenticeship Center, at the Manufacturing Education Center Gateway Campus at 715-874-4602 or 715-874-4604, the Bureau of Apprenticeship Standards located at the Chippewa Falls Campus at 715-738-3853, area Job Centers and local trade union offices. (Additional information can be found at [www.cvtc.edu](http://www.cvtc.edu), under Programs & Courses/Apprenticeship Catalog).

CVTC offers an Associate Degree in Technical Studies to individuals who have completed an apprenticeship program and attained the journey level status. The degree is specific to the occupational goals of the individual seeking the degree. Please contact an academic advisor at 715-833-6346. The state website for apprenticeship programs is [www.dwd.state.wi.us](http://www.dwd.state.wi.us).

# Short-Term Training Certificates

## Business, Finance & Marketing

### Customer Service Representative (TC-106-6)

This certificate is designed for people who want to enhance or update their skills in the software and customer service arena. The student may elect an emphasis in medical, legal, or general business. Most of the classes in this certificate are available in an open-lab or online format.

Course #	Course Title	Credits
103-102	Microsoft Office Suite .....	2
106-105	Business Words at Work .....	3
106-140	Office Procedures.....	3
106-146	Quality Customer Service.....	2
<b>Total Credits .....</b>		<b>10</b>

### Entertainment, Sports & Event Marketing (TC-104-5)

This certificate will help you develop an understanding of marketing concepts and theories that apply to Sports and Entertainment events. The areas this certificate will cover include target marketing and segmentation, sponsorships, event marketing, promotions, sponsorship proposals, and implementation of sports marketing plans. Students will also look into promotional plans, sponsorship proposals, sports marketing plans, event evaluation and management techniques.

Course #	Course Title	Credits
104-102	Marketing Principles .....	3
104-104	Professional Selling .....	3
104-111	Consumer Behavior .....	3
104-125	Promotion Principles.....	3
104-160	Entertainment, Sports, and Event Marketing.....	3
<b>Total Credits .....</b>		<b>15</b>

### Human Resource Generalist (TC-116-2)

This certificate is designed for supervisors or employees who desire or have recently taken on Human Resource responsibilities. The concepts covered in the certificate would also serve those who are looking for a career change or a comprehensive overview of Human Resources, outside their current specialty area. The certificate consists of six three-credit courses. The first course to be taken should be 116-193, Intro to Human Resources, as it is a prerequisite for all other courses. Each course is conveniently offered in multiple delivery formats.

Course #	Course Title	Credits
116-193	Intro to Human Resources .....	3
116-110	Employee Benefits .....	3
116-111	Perform Mgmt & Empl Reward Sys .....	3
116-112	Training Systems.....	3
116-113	Human Resource Law.....	3
116-114	Recruitment and Selection.....	3
<b>Total Credits .....</b>		<b>18</b>

## Business, Finance & Marketing

### Leadership/Supervision (TC-116-1)

No matter what your career, success depends on demonstrating good leadership skills in a very competitive workplace. This certificate will provide you with the skills and understanding necessary to become more effective in leadership positions in business, industry, government, and healthcare. Increase your knowledge in personal leadership, new management principles, ethics, and employee performance techniques. Courses in this certificate are offered at varying times and delivery methods to accommodate your needs.

Course #	Course Title	Credits
102-112	Principles of Management .....	3
102-113	Business Ethics .....	3
116-111	Perform Mgmt & Empl Reward Sys .....	3
116-190	Leadership Development .....	3
<b>Total Credits .....</b>		<b>12</b>

### Marketing Management (TC-104-3)

This certificate will explore marketing strategies that will focus on developing an appropriate marketing mix for an organization and developing a marketing plan that will reach the desired target market.

Course #	Course Title	Credits
104-102	Marketing Principles.....	3
104-104	Professional Selling .....	3
104-125	Promotion Principles.....	3
104-183	Marketing Management .....	3
<b>Total Credits .....</b>		<b>12</b>

### Professional Selling Certificate (TC-104-4)

This certificate will focus on developing a customer base and building long-term relationships with clients. The participants will apply selling basics in order to enhance the buying experience for their customers and the bottom line for their employers.

Course #	Course Title	Credits
104-102	Marketing Principles .....	3
104-104	Professional Selling .....	3
104-111	Consumer Behavior .....	3
104-140	Business to Business Selling.....	3
<b>Total Credits .....</b>		<b>12</b>

# Short-Term Training Certificates

## Business, Finance & Marketing

### Promotional Design (TC-104-6)

This certificate is designed to develop skills that are needed to create effective integrated marketing communication campaigns including: understanding customer insight, segmenting and targeting, positioning a brand, identifying campaign objects, developing creative media strategies, determining the best way to evaluate and measure the effectiveness of you IMC effort. In addition you will learn media creation such as website development, promotional design, and professional presentations.

Course #	Course Title	Credits
104-102	Marketing Principles .....	3
104-125	Professional Selling .....	3
104-152	Social Media Marketing .....	3
104-126	Promotional Design .....	3
106-164	Business Presentations and Publications .....	3
<b>Total Credits .....</b>		<b>14</b>

### Records & Information Mgmt Specialist (TC-106-5)

Who should receive this certificate? Persons who are employed or interested in positions such as records and information managers or supervisors; records technicians/coordinators/analysts; records and document imaging analysts; legal records coordinators; archivists; office or administrative services managers and administrative support personnel; and others who need to provide the right information to the right people at the right time at the best possible cost. If you are responsible for the creation, use, distribution, maintenance, and disposition of information in your organization, whether in paper, image, or digital form, this five-course certificate may be of interest to you. You may study and earn this 15-credit certificate completely via the Internet.

Course #	Course Title	Credits
176-105	Foundations of RIM .....	3
176-108	RIM Fundamentals .....	3
176-111	Records Classification Systems .....	3
176-121	Records & Info Technology .....	3
176-140	RIM Applications .....	3
<b>Total Credits .....</b>		<b>15</b>

### Retail Management (TC-104-2)

This certificate will explore the retail industry and prepare participants for retail management and retail merchandising opportunities.

Course #	Course Title	Credits
104-102	Marketing Principles .....	3
104-104	Professional Selling .....	3
104-108	Retail Management .....	3
104-111	Consumer Behavior .....	3
<b>Total Credits .....</b>		<b>12</b>

## Business, Finance & Marketing

### Small Business Accounting (TC-101-1)

Certificate options will enable students to upgrade accounting skills used in a current job; prepare for employment advancement where accounting knowledge is needed; and obtain entry-level accounting skills used in accounting assistant positions working with accounts receivable, accounts payable, and payroll. Complete all credits from the list below.

Course #	Course Title	Credits
101-106	Acctg Spdsheets & Calculations .....	2
101-111	Accounting I .....	4
101-121	Payroll Accounting .....	2
101-150	Accounting Software Apps .....	3
103-102	Microsoft Office Suite .....	2
<b>Total Credits .....</b>		<b>13</b>

### Small Business Marketing (TC-104-1)

This certificate is designed to help prepare a person to implement effective marketing and management strategies for a small business. This is an ideal training program to help a person move up in the organization or manage their own small business.

Course #	Course Title	Credits
102-130	Small Business Management .....	3
104-102	Marketing Principles .....	3
104-104	Professional Selling .....	3
104-125	Promotion Principles .....	3
<b>Total Credits .....</b>		<b>12</b>

### Software Specialist (TC-106-10)

This certificate is designed to give students experience in the beginning and intermediate skills necessary to become a competent user of various productivity software. Software studied will include Word, Excel, Access, PowerPoint, and Publisher. Students will learn these skills using textbook tutorials and case problems as well as real-world projects.

Course #	Course Title	Credit
103-102	Microsoft Office Suite .....	2
106-164	Business Presentations & Publ .....	3
106-171	Adv Software Applications .....	3
106-174	Business Software Solutions .....	3
<b>Total Credits .....</b>		<b>11</b>

# Short-Term Training Certificates

## Health Science

### Critical Care Nursing (TC-543-2)

This certificate is restricted to registered nurses with proof of an active license or Chippewa Valley Technical College Associate Degree Nursing program students who have successfully completed 543-109, 543-110, 543-111 and 543-112.

This certificate is designed to expand the student's knowledge of nursing practice in the critical care nursing environment. This certificate may lead to enhanced career advancement potential and/or employability in a critical or acute care area. The laboratory component of the course is offered in the Human Patient Simulation Laboratory at the Eau Claire Health Education Center. The theory component will be offered through web-based instruction. The clinical experiences will be offered at a variety of clinical facilities. A certificate will be awarded upon completion of 543-121 and 543-122 for registered nurses. Chippewa Valley Technical College Associate Degree Nursing students who complete 543-121 Introduction to Critical Care Nursing and 543-116 Nursing Clinical Transition in a critical care area are also eligible to receive the Critical Care Nursing Certificate.

Course #	Course Title	Credits
543-121	Introduction to Critical Care Nursing .....	3
543-122	Clinical Practice in Critical Care Nursing .....	2
<b>Total Credits .....</b>		<b>5</b>

### Emergency Department Nursing (TC-543-3)

This certification is designed to expand the student's knowledge of nursing practice in the emergency nursing environment. This online and laboratory certificate specializing in Emergency Department Nursing gives participants the essential knowledge base required for assessment and initial management of the emergency patient. By gaining certification, participants not only validate competency, but also demonstrate a greater commitment to specialty and quality health care. This certificate focuses on determining priorities of care in the assessment of ill or injured emergency patients. Topics covered include: triage, assessment, and management of shock; fluid resuscitation; and stabilization of respiratory, neurological, thoracic, and abdominal injuries, basic EKG interpretation and ACLS. This certificate may lead to enhanced career advancement potential and/or employability in an emergency area. The laboratory component of the course is offered on the Eau Claire Health Education Center Virtual Medical Center, course number 543-166 (includes ACLS course and EKG basics). The clinical experiences will be offered at a variety of clinical facilities, course number 543-167. A certificate will be awarded upon completion of these courses. An alternative completion is 543-116 Nursing Clinical Transition and the lab course 543-166. Only offered in fall semester.

Course #	Course Title	Credits
543-166	Introduction to Emergency Dept Nursing .....	3
543-167	Clinical Practice in Emergency Dept Nursing .....	2
<b>Total Credits .....</b>		<b>5</b>

## Information Technology

### .NET Application Development (TC-152-7)

This certification builds on the foundation of programming using VB.NET. In this certificate, you will explore database usage using ADO.NET, create Crystal Reports in a project, develop objects and classes, and incorporate other techniques using the .NET family of products.

Course #	Course Title	Credits
152-101	Programming Fund - JavaScript .....	3
152-103	.NET Application Development .....	3
152-105	.NET-ASP .....	3
152-106	Operating Systems .....	2
152-132	Database 1 .....	3
<b>Total Credits .....</b>		<b>14</b>

### 3D Game/Simulation Programming 1 (TC-152-5)

Interactive simulations are set to revolutionize industry, business, and educational training. Simulation training is cost effective, safe, and repetitive. This certification will offer the student an introduction to the programming and 3D graphics toolsets needed to develop an interactive simulation.

Course #	Course Title	Credits
152-101	Programming Fund - JavaScript .....	3
152-160	Object-Oriented C Programming .....	3
152-161	3D Modeling 1 .....	3
152-162	3D Game/Simulation Programming .....	3
<b>Total Credits .....</b>		<b>12</b>

### 3D Game/Simulation Programming 2 (TC-152-13)

This certificate is a continuation of simulation development and programming to follow the 3D Game/Simulation Programming 1 technical certificate.

Course #	Course Title	Credits
152-165	3D Modeling 2 .....	3
152-166	IT-P/A Capstone .....	2
<b>Total Credits .....</b>		<b>5</b>

# Short-Term Training Certificates

## Information Technology

### Cisco Networking Academy (TC-150-1)

Cisco Systems, the worldwide leader in networking for the Internet, is a partner with CVTC. This training program is designed to teach people to design, build, and maintain computer networks capable of supporting national and global organizations. Participants who complete the 10 credits of specially developed curriculum and certifications testing will be ready to begin working in the Information Technology field.

Course #	Course Title	Credits
150-150	Cisco 1: Network Fundamentals .....	3
150-151	Cisco 2: Routing Protocol/Conc .....	3
150-153	Cisco 3: LAN Switch & Wireless .....	2
150-154	Cisco 4: Accessing the WAN .....	2
<b>Total Credits .....</b>		<b>10</b>

### Database Analysis and Development (TC-152-11)

Every information system depends on data. This certificate provides course work to provide a solid foundation in database design and development – from the initial data analysis phase through the actual database creation. In both UNIX and Windows environments, students create and manipulate relational databases using the SQL language for a variety of database management systems, such as: Oracle, MySQL, and Access.

Course #	Course Title	Credits
152-106	Operating Systems .....	2
152-132	Database 1 .....	3
152-136	Database 2 .....	3
<b>Total Credits .....</b>		<b>8</b>

### IT Network Support Associate (TC-150-2)

Completion of this certificate prepares the learner to perform basic installation, configuration and support of Unix/Linux, Novell eDirectory and Microsoft network operating systems as well as provide essential support to desktop operating systems such as Microsoft Windows and Linux in a networked environment. The learner will also be prepared to perform numerous types of basic hardware installation and maintenance functions on PC platforms. This certificate can be completed in 2 semesters.

Course #	Course Title	Credits
150-120	Network Diagramming .....	1
150-123	IT Networking Concepts .....	3
150-134	Network Infrastructure Cncpts .....	2
150-143	Computer Hardware .....	4
150-150	Cisco 1: Network Fundamentals .....	3
150-160	Network Directory Services .....	3
150-165	Microsoft Windows Network Adm .....	3
150-175	Unix System Administration .....	3
<b>Total Credits .....</b>		<b>22</b>

## Information Technology

### Java (TC-152-6)

This certificate includes an introduction to Object-Oriented Design and Programming. Students will design and develop a database application using structured Query Language (SQL). Students will analyze projects and design and diagram solutions. The students will learn to create Java classes and write their own methods. Basic programming skills, such as decision-making, looping, string manipulation, and arrays, followed by advanced concepts of Input/Output, Exception classes and packages will be included. Students will use Collections Classes, Java Database Connectivity, Servlets and Java Server Pages to develop Java Web Applications.

Course #	Course Title	Credits
152-101	Programming Fund - JavaScript .....	3
152-129	Java Web Programming .....	3
152-132	Database 1 .....	3
152-142	O O Analysis & Design-Java .....	3
<b>Total Credits .....</b>		<b>12</b>

### Mobile Application Development (TC-152-14)

Develop the programming skills necessary to begin native application development for mobile computing devices. Begin by learning fundamental programming skills. Then move on to experience object-oriented programming. Finally, put those programming skills to work in the final course where you develop and test mobile applications.

Course #	Course Title	Credits
152-101	Programming Fundamentals – JavaScript .....	3
152-142	O O Analysis & Design – Java .....	3
152-151	Mobile Application Development.....	3
152-106	Operating Systems .....	2
<b>Total Credits .....</b>		<b>11</b>

### Network Hardware Support Specialist (TC-150-3)

The Network Hardware Support Specialist Certificate prepares individuals to install, configure, and administer a variety of networking devices that are common in today's LAN environments. This certificate is intended for electronics and automation technicians whose duties include some computer and/or network maintenance. This certificate is also appropriate for students enrolled in the Electromechanical Technology Program at CVTC and adds value to that degree. This certificate may take two to three semesters to complete.

Course #	Course Title	Credits
150-120	Network Diagramming .....	1
150-150	Cisco 1: Network Fundamentals.....	3
150-151	Cisco 2: Routing Protocol/Conc .....	3
150-170	Computer Maint & Support .....	3
150-183	Wireless Networking.....	2
<b>Total Credits .....</b>		<b>12</b>

# Short-Term Training Certificates

## Information Technology

### Web Development 1 (TC-152-8)

This certificate starts with an introduction to programming using VB.NET. Courses also include content to create dynamic Web pages using XHTML and Cascading Style Sheets (CSS), and extending into creating dynamic web applications using client-side JavaScript and the server-side PHP environment. An exploration of Macromedia Dreamweaver and Flash is also included.

Course #	Course Title	Credits
152-101	Programming Fund - JavaScript .....	3
152-107	Web 1-HTML & CSS .....	3
152-108	Web 2-JavaScript .....	3
<b>Total Credits .....</b>		<b>9</b>

### Web Development 2 (TC-152-9)

This certificate is a follow-up to the Web Development 1 technical certificate. In addition to creating web pages, XML, AJAX, advanced PHP and database applications related to web pages are explored in depth.

Course #	Course Title	Credits
152-106	Operating Systems .....	2
152-132	Database 1 .....	3
152-164	Database-Driven Web Design/Dev .....	3
<b>Total Credits .....</b>		<b>8</b>

### Web Multimedia (TC-152-10)

In this certificate, attention will be focused on the design elements of websites, tools to be used to develop graphics, Macromedia Dreamweaver, Macromedia Flash, and programming Flash with ActionScript.

Course #	Course Title	Credits
152-159	Web Multimedia .....	3
152-168	Multimedia Program & Design .....	3
<b>Total Credits .....</b>		<b>6</b>

## Law, Public Safety & Security

### Critical Care Transport (TC-531-2)

The Critical Care Transport certificate is designed to prepare licensed healthcare professionals to function as critical care transport team members. Critically ill or injured patients requiring transport between facilities need a different level of care from hospital or emergency field patients. This certificate provides students with knowledge of the special assessment techniques and needs of the critical care patient, the ability to operate and troubleshoot critical care transport equipment, and develops the skills necessary to maintain the stability of the critical care patient during transport.

Course #	Course Title	Credits
531-315	Critical Care Transport.....	3
<b>Total Credits .....</b>		<b>3</b>

### Emergency Medical Technician (TC-531-1)

The Emergency Medical Technician (EMT) class consists of 144 hours of course work and adheres to all national and state guidelines. Classes are usually held two or three sessions per week for a semester. Graduates of the course are eligible to participate in the National Registry examination to become licensed as Emergency Medical Technicians in the State of Wisconsin. Advanced EMT is a 90-hour course which adheres to state guidelines and prepares experienced EMTs in advanced life support, including IVs and administration of select medications offered upon request.

Course #	Course Title	Credits
Choose 3 credits from the following:		
531-110	Emergency Medical Technician.....	5
531-340	Advanced EMT .....	3
<b>Total Credits .....</b>		<b>3</b>

# Short-Term Training Certificates

## Law, Public Safety & Security

### Paralegal Post-Baccalaureate (TC-110-1)

This Paralegal Post-Baccalaureate Certificate may be earned in one year of study if the student has already completed a Bachelor's (BS or BA) or a higher degree from a regionally accredited college. To complete the certificate, the student will need 24 credits in paralegal (110) courses. The American Bar Association (ABA) requires at least four of these classes must be taken in a traditional classroom - not online. You must be accepted into the Paralegal Program or Paralegal Certificate to register for 110 legal specialty classes. Please contact the Program Director or the Counseling Department to determine if the Associate Degree Program or the Paralegal Certificate will best meet your needs. Minimum 2.0 cumulative GPA required for successful completion of certificate. \*\*Students may take additional legal specialty courses beyond the eight required courses.

Course #	Course Title	Credits Available
110-101	Paralegal & Legal Ethic, Intro .....	3
110-102	Civil Litigation I .....	3
110-104	Legal Research .....	3
Choose 1 course(s) from the following:		
110-114	Administration of Estates .....	3
110-168	Criminal Law-Paralegal .....	3
110-103	Civil Litigation II .....	3
110-105	Legal Writing .....	3
Choose 1 course(s) from the following:		
110-106	Family Law .....	3
110-107	Legal Aspects of Bus Organiz .....	3
Choose 1 course(s) from the following:		
110-142	Paralegal Internship .....	3
110-143	Paralegal Field Study .....	3
	<b>Total Credits .....</b>	<b>24</b>

## Manufacturing

### Advanced Machining-Swiss (TC-420-1)

This (9 credit) certificate will provide the student instruction on the fundamentals of Swiss style CNC machines including; basic history, terms and definitions, basic Swiss machine operation, part processing, manual and computer supported part programming, as well as CAD/CAM programming with simulation and program analysis. Swiss style machining is a unique type of turning center in which a sliding head stock pushes material through a guide bushing and past stationary tools to create very accurate complex shapes and is very adequate for machining parts at the micro level. Live rotary cross tools create secondary features, such as holes or slots, and other geometries that would normally require multiple machines and setups. Multiple spindled machine tools, such as Swiss style machining centers, enable parts to be completely machined in one setup. Medical devices, electronic devices, and aerospace components are a great fit for this type of technology. These machine tools regularly apply exotic materials such as titanium, nickel, stainless steel alloys. This highly specialized advanced machine training will benefit individuals who are highly motivated thinkers who have the desire to explore the Swiss machining market as an employer or employee.

Course #	Course Title	Credits
420-381	CAD/CAM for Swiss .....	3
420-382	Swiss I .....	3
420-383	Swiss II .....	3
	<b>Total Credits .....</b>	<b>9</b>

### CAD Operator (TC-606-2)

Provides instruction for the entry level mechanical CAD (Computer Aided Design) operator. Software operation using industry standard AutoCad and SolidWorks software are used during instruction to develop detailed design drawings and specifications for mechanical equipment, dies, and tools using computer-assisted drafting (CAD) equipment. Two dimensional drawings, isometric drawings, three dimensional drawings and assemblies will be created. Print reading, visualization, sketching, and design document structuring are addressed. The student will have the opportunity to develop a portfolio of multiple CAD applications. Fundamentals Geometric Dimensioning and Tolerancing principles are applied to mechanical part designs based on the current ASME Y14.5 standard. Courses in the certificate introduce the student to a broader range of manufacturing process, related part feature creation, material properties and the effects of production variation on design and part productivity.

Course #	Course Title	Credits
606-102	Principles of Design .....	2
606-104	Geometric Dimen & Tolerancing .....	3
606-130	Solid Modeling I .....	3
606-131	Solid Modeling II .....	3
606-160	Mfg. Materials Processes .....	3
606-161	CAD, Basic .....	3
	<b>Total Credits .....</b>	<b>17</b>

# Short-Term Training Certificates

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## Manufacturing

### CNC Machining Retraining (TC-420-2)

This 12 credit certificate is designed to provide retraining instruction for dislocated machinists or provide update training for current machinists needing experience with CNC (Computer Numerical Control) machine operations and CAM (Computer Aided Machining) skills with milling and turning. This certificate covers instruction for basic operation, set-up, processes, and programming of CNC mills and lathes. This certificate will provide the student with basic knowledge of 2-D Master Cam software in support of CNC machining. The certificate is designed to be completed in one semester.

Course #	Course Title	Credits
420-325A	Basic CNC Mill Programming .....	5
420-330A	Basic CNC Lathe Programming .....	5
420-380A	2-D CAM .....	2
	<b>Total Credits .....</b>	<b>12</b>

# Course Descriptions

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## 001-Horticulture

### 001-100 Horticulture, Introduction to 3 cr

This course provides an overview of the horticulture profession. Its role and importance throughout history, current trends, and career opportunities will be covered. Particular attention is given to horticulture crops and their use, plant classification, plant propagation, and the inter-relationships between the environment, plant growth, and plant development. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-102 Landscape Design/Construction 2 cr

Students will learn how to create a sustainable landscape design that is functional, maintainable, environmentally sound, cost effective, and aesthetically pleasing. Emphasis will be on the landscape design sequence and implementation of the completed landscape design. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-103 Turf Mgmt & Irrigation Systems 2 cr

Examines how to effectively establish and maintain professional lawn/turf. Covers identification and selection of turfgrasses, establishment and maintenance practices. The course will include nutrient needs, integrated pest management, diagnosing problems, corrective strategies, irrigation principles and irrigation implementation. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-104 Greenhouse Management 2 cr

A variety of topics fundamental to managing a greenhouse will be addressed in this course. The overall operation of a green house facility including types of structures, heating/cooling options, lighting, insect/disease management, watering methods, and equipment will be examined. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-108 Bus Apps for Green Industry 2 cr

Marketing practices of products and services for the Green Industry ranging from product pricing to distribution of product will be studied. Students will analyze new and established strategies for selling through stores, mail order catalogs and Internet sites. Effective techniques for attracting and keeping customers will be covered. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-109 Horticulture Internship 3 cr

Individuals participating in a work experience will have an opportunity to practice acquired skills and knowledge from their program coursework. This course is designed to help the student, instructor, and site supervisor to focus on major outcomes of the training and general readiness for employment in their chosen field. Prerequisite(s): 001-100 Horticulture, Introduction to. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-110 Integrated Plant/Pest Mgmt 2 cr

The course will provide students with the knowledge and skill necessary to diagnose plant problems and control strategies in the landscape.

Particular attention is given to insects, diseases, weeds and cultural needs of landscape plants. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-111 Sustainable Land Use Mgmt 3 cr

Analyze the existing landscape to determine the best management practices for the location. Students will gain practical knowledge on procedures for maintaining established landscapes and the economic return. Benefits on well selected and skillful placement of native plant material for the landscape will be an integral part of the overall approach to sustainable land use in this course. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-112 Interior Plants & Plantscaping 2 cr

This course covers topics in foliage plant characteristics, requirements, and identification. Particular attention is placed upon identification of foliage plant material and the classification of these materials according to cultural and interior use characteristics. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-113 Pesticide & Fertilizer App 3 cr

This course focuses on the study and application of pesticides and fertilizers used on horticulture crops. Specific areas of study include chemical classification, mode of action in plants, injury symptoms, resistance in plants and pests, mixing and loading concerns, application methods and concerns, recordkeeping and posting requirements. Students will be required to take the Commercial Pesticide Applicator Certification exam as part of this course. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-114 Entrepreneurship for Green Ind 2 cr

Students will investigate businesses utilizing a variety of methods to create a profitable return in the production of goods and services for the Green Industry. Exploring the small business aspects of this industry will be approached through practical learning activities. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-115 Vegetable and Fruit Production 2 cr

Students will study the commercial production of vegetables in the Midwest while examining the sustainability of the various crops in the industry. Key components will be site selection, integrated cropping systems, cultural and management practices, profitability and efficiencies. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

### 001-116 Landscape Plants 3 cr

Study of annuals, perennials, and roses. Selection, care, and tips to best utilize flowers and foliage plants effectively in their landscape. Groundcovers and vines will be included. Identification of trees and shrubs and their use in the landscape with emphasis on texture, color, bark, flowers, and fruit will be examined. Students will learn proper planting and maintenance practices along with critical pests and diseases that can affect the health of these landscape plants. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

# Course Descriptions

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**001-120 Horticulture Soils** 3 cr  
Explores soil properties, formation, development, and classification in relation to the horticulture industry. Course topics will include horticulture soils uses as a growing medium and as an engineering base for Landscaping. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

**001-125 Horticulture Equipmnt & Safety** 2 cr  
Focuses on how to maintain and operate a skid steer loader, forklift, til-handlers, turf mowing equipment and general landscape equipment. Restricted to students admitted to the following program(s): 10-001-1 Landscape Plant Turf Mg.

**001-199 Horticulture Ind Study** 2 cr  
This course is designed to give the student an opportunity to research an area of horticulture, in one of the following areas; landscape, greenhouse production, plant or turf management. The student's plan of study will be preapproved by the instructor. A final written/oral report will be required.

## 006-Agri-Business

**006-110 Genetics** 1 cr  
Genetics related to plants, animals; cell division.

**006-114 Legal Aspects of Agriscience** 2 cr  
Contractual agreements; consumer rights and responsibilities; hazardous materials handling; hiring and protection of employees; debt collection; related government agricultural policy and programs; insurance needs.

**006-116 Introductory Soils** 3 cr  
Provides fundamental knowledge of soils and growth media. Course topics include soil formation and development, soil components, soil profile, soil classification, and soil conservation. Participants will experience soils concepts through the completion of hands-on activities.

**006-120 Livestock Computer Apps** 2 cr  
This course will apply the use of livestock management software, database management software, spreadsheets and specialized on-farm applications.

**006-122 Agriculture Facilities** 2 cr  
Livestock building design, drying grain, forage crops; movement and storage of grains, forages, and manure storage.

**006-123 Agriculture Equipment** 3 cr  
This course provides fundamentals of calibration and maintenance of planting, seeding, harvesting, and milking equipment, including emphasis on precision agricultural concepts. By the end of the course, participants will have the skills and knowledge to operate, maintain, and calibrate precision agriculture equipment components.

**006-130 Agribusiness Financial Mgmt.** 2 cr  
This course focuses on the financial management of farm and agriculture-related businesses. Special emphasis is given to the areas of business types and systems, tools for making financial decisions,

financial statement analysis, budgeting business operating and capital expenses, obtaining credit, depreciation, and other business tax concerns.

**006-138 Principles of Ag-Products Mktg** 3 cr  
This course will apply supply and demand economic principles to the marketing of agricultural commodities including grains, livestock, and milk. This course will focus on the development of marketing strategies for agricultural commodities using cash sales, forward contracts, hedging, and options.

**006-140 Agribusiness Sales** 3 cr  
Provides basic knowledge of agribusiness sales and marketing. Topics include recognizing potential customers and building a positive customer relationship, designing marketing plans, and using marketing and sales databases. The concepts will be presented using hands-on activities.

**006-141 Intro to Ag Engineering** 3 cr  
A study of engineering concepts and principles as they apply to farm power and machinery, electrical energy and processing, structures and environment, irrigation and drainage, and food engineering. The laboratory will provide an opportunity to develop techniques in design, planning, construction, and performance evaluation.

**006-151 Plant Protection Products** 2 cr  
This course focuses on the study and application of crop protection products used on agronomic crops in the upper Midwest. Specific areas of study include chemical classification, of action in plants, injury symptoms, resistance in plants and pests, mixing and loading concerns, application methods and concerns, recordkeeping and posting requirements and the chemical's application to precision agriculture. Students will be required to take the Commercial Pesticide Applicator Certification exam as part of the course.

**006-160 Plant Science** 3 cr  
Provides fundamental knowledge of plant components and their functions. Topics include pollinating and propagating plants, germinating seeds, plant nutrients, and factors affecting photosynthesis, respiration, and transpiration. Participants will experience plant components and their functions through the completion of hands-on activities.

**006-161 Weed Identification** 2 cr  
The course will focus on the classification and identification of weeds commonly found in the upper Midwest (primarily the 30 common Wisconsin weeds required to pass the Wisconsin Certified Crop Advisor Test). Weeds will be identified by their seed, seedling, and mature plant characteristics. Integrated Pest Management (IPM) control methods appropriate for plant families and life cycle will be discussed and evaluated.

**006-162 Soil Fertility and Fertilizers** 2 cr  
This course will review soil chemistry, plant required nutrients, soil testing, soil test interpretation, liming soils, soil fertilizers, fertilizer analysis, methods of fertilizer application, manure applications, environmental concerns about fertilizer applications, and economics of fertilizer use. Emphasis will be on the profitable use of fertilizers in crop production.

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**006-164 Plant Pathology and Entomology** 2 cr  
The course will focus on scouting practices for the common pests of corn, alfalfa, and soybeans. Class time will be split between 1) classroom lecture, 2) discussion concerning the identification and management of pests, 3) field applying approved scouting practices, and 4) discussing problems brought in from the field--weeds, diseases, insects, etc.

**006-166 Computer Applic-Agronomy** 2 cr  
This course will focus on the use of commercial computer software programs specifically designed to facilitate crop production and management. Specific software packages the student will work with include: Agrisource, Nutri-Plan, SNAP; and may include introduction to: Select, ABCS, MACHCOST, and other software which comes available.

**006-168 Row Crop Management** 2 cr  
This course will focus on the cultural practices important in the profitable production of row crops common to Wisconsin (corn and soybeans). Specific attention will be given to seed bed preparation, planting, variety selection, fertilization, weed control, insect control, disease control, harvesting, drying and storing corn and soybeans. Budgeting the row crop enterprise will be covered in instruction.

**006-169 Forage Crop Management** 2 cr  
Cultural practices; varietal selection; calculations of forage quality; forage stand evaluation.

**006-175 Managed Ag Precision Sys 1** 2 cr  
This course will focus on maximizing the use and implementation of common equipment used in today's production of row crops. Safe operations, setup, maximizing the efficient use of tractor, planters, tillage, harvesting equipment, GPS data management and guidance systems, will be covered. Class time will be 90 percent labs where the student is operating the different pieces of equipment on a dedicated parcel of land for that student. The student may enroll in both the spring and fall semester offerings to obtain the complete second cycle of this agronomy instructional offerings. Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.

**006-176 Managed Ag Precision Sys 2** 3 cr  
This course will focus on maximizing the use and implementation of common equipment used in today's production of row crops. Safe operations, setup, maximizing the efficient use of tractor, planters, tillage, harvesting equipment, GPS data management and guidance systems, will be covered. Class time will be 90 percent labs where the student is operating the different pieces of equipment on a dedicated parcel of land for that student. The student may enroll in both the spring and fall semester offerings to obtain the complete second cycle of this agronomy instructional offering. Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.

**006-180 Animal Science** 3 cr  
Provides fundamental knowledge of the animal science field. Topics include animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and job-related safety. Participants will experience animal concepts through the completion of hands-on activities.

**006-182 Animal Reproduction** 3 cr  
Reproductive process in animals; conception, fetal development.

**006-184 Herd Health & Sanitation** 2 cr  
Maintain healthy dairy herd; reducing somatic cell count; role of vaccines, antibiotics, probiotics.

**006-186 Managing Youngstock & Dry Cows** 1 cr  
Non-lactating cow to calving, raising heifers to parturition.

**006-188 Feed Analysis** 2 cr  
Dairy feeds; quality and nutritional value.

**006-189 Ration Formulation** 2 cr  
Nutritional requirements for growth, reproduction and lactation stages.

**006-190 Agriscience Internship** 3 cr  
Individuals participating in a work experience will have opportunity to practice acquired skills and knowledge from their program coursework. This course is designed to help the student, instructor, and site supervisor to focus on major outcomes of the training and general readiness for employment in their chosen field. Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.

**006-191 Adv Agriscience Internship** 2 cr  
This course is custom designed for students desiring advanced training in an instructor-approved career emphasis. This course will focus on a particular aspect of animal science or agronomy as agreed upon by the student, instructor, and cooperating employer. Competency based projects will be developed, presented, and evaluated at specified dates. The cooperating employer will also complete an assessment of the student's identified competencies. Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.

**006-192 Farm Business Spanish** 2 cr  
Students will acquire Spanish speaking skills appropriate for the dairy and livestock industry. Emphasizes the use of vocabulary and expressions needed for communication in the dairy and livestock industry. Addresses cultural aspects of working with Spanish speaking populations.

**006-193 Interm Farm Business Spanish** 2 cr  
Intermediate Farm Business Spanish is a course that provides experience to improve conversational Spanish language skills with an emphasis on the dairy farm business setting.

**006-199 Agriscience-Ind Study** 3 cr  
This course is designed to give the student an opportunity to research an area of agriculture production, agriscience or agribusiness that is not part of the regular curriculum. The student learning plan, including required reports and projects, are developed in conjunction with the instructor. Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.

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## 007-Biotechnology

**007-111 Applied Biotechnology** 2 cr  
Applications of biotechnology to agriscience; tissue culturing such as cloning, cell manipulation and gene transfer.

## 090-Farm Business Management

**090-310 Farm Bus Planning & Risk Mgmt** 4 cr  
Emphasizes management skills and concepts necessary for farming in today's changing technology and farm business financing. Organize and maintain farm business records, interpret and analyze the records to assist in making sound farm management decisions. Entire farming operation is assessed and plans are developed for future needs, goals and objectives. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-315 Farm Business Planning** 2 cr  
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on developing a farm business plan and implementing a farm record keeping system. The course will consist of two one-on-one farm sessions of four hours each. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-320 Land Use Management** 4 cr  
Prepare for land use and nutrient management, develop plan for equipment maintenance and replacement, study alternative energy sources, implement a farm safety plan, and implement environmental land use recommendations. This course is designed for students who have already completed equivalent course in Farm Business Production Management program. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-325 Farm Financial Analysis** 2 cr  
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on developing a farm financial plan including, but not limited to, a balance sheet, cash flow statement, income statement, and other financial statements required for a farm business. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows student to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-330 Precise Agronomics&EnergyMgmt** 4 cr  
Crop management, including planning, planting, care, harvesting, storage, and marketing. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-335 Nutrient Management Planning** 2 cr  
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on updating and interpreting a farm nutrient management plan. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-340 Livestock Nutrition&Reproductn** 4 cr  
Apply livestock nutrition principles and complete a farm business analysis. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-345 Farm Production and Marketing** 2 cr  
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on maintaining and interpreting farm production and marketing plans. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-350 Farm Bus Analysis&Mrkt Strat** 4 cr  
Computerized financial records, credit, budgeting, farm estate planning, financial analysis, and risk management. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-355 Adv Farm Financial Analysis** 3 cr  
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on developing a total farm financial analysis plan with the aid of Finpack. Producers will have the opportunity to analyze their farm and compare their financial situation with that of their peers helping them to shape their future business. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-360 Livestk Fac, Health & Biosecurity** 4 cr  
Dairy production including housing youngstock, breeding and sire selection, herd health, quality milk production, and marketing. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

**090-390 Cash Grain Crop Mgmt** 4 cr  
The course content focuses on issues and concerns of particular interest to the student involved in the production of agronomic or specialty crops for cash sale. Topics addressed include marketing alternatives and strategies; biotechnology applications in crop production; advanced production practices; financial management of the crop enterprise; and

# Course Descriptions

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human resource issues. The course includes 72 hours of group instruction and 8 hours of individual on-farm instruction. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

## **090-391 Mktg/Fin Mgmt in Grain Prod** 4 cr

This course content focuses on issues and concerns of particular interest to the student involved in the production of agronomic or specialty crops for cash sale. Topics addressed include cost of production/enterprise accounting, opportunities for price premiums, alternate uses of beans, corn, etc., carbon credits, business analysis, insurance issues, use of credit, and alternate investments.

## **090-392 Adv Cultural Pract in Agronomy** 4 cr

This course content focuses on issues and concerns of particular interest to the student involved in the production of agronomic or specialty crops for cash sale. Topics addressed include specialized cropping alternatives and strategies, biotechnology applications in crop production, environmental issues, site specific farming principles, software applications, as well as other emerging technologies.

## **090-393 Felty/Equip Mgmt in Grain Oper** 4 cr

This course content focuses on issues and concerns of particular interest to the student involved in the production of agronomic or specialty crops for cash sale. Topics addressed include GPS applications, tillage alternatives, innovative technologies, transportation, equipment maintenance and economics, as well as storage, drying, and handling.

## **090-394 Farm Record Keeping** 2 cr

This course is designed to introduce farm owners/bookkeepers to the skills necessary to utilize QuickBooks computerized recordkeeping software. It is tailored to the farm population. We will master the skills of printing checks, paying bills, generating reports, invoicing customers, and tracking expenses. You will be able to look more professional utilizing customized invoices and sales receipts. You will design your own chart of accounts that fits the type of farm operation that you have. You will also be able to organize your company information and the information of your suppliers and customers so it is easily accessible and organized. This is a hands-on course. Please bring a copy of your last year's financial records to use as a guide in setting up your QuickBooks Template.

## **090-395 Farm Computer Applications** 2 cr

The course is designed to introduce the farm population to the basic skills needed to operate a computer. The class will start by introducing the everyday operations of a home computer including such things as power supplies, printers, memory, computer speed, internet options, and everyday maintenance. We will then move into the basics of utilizing software such as word processing, power point, and spreadsheet basics. Students will learn how to set up folders in which to save data and keep it organized. A portion of the course will also deal with the basics of Internet access. We will explore how to navigate the Internet, conduct searches, set up favorite websites, e-mail, and multimedia options. This course is designed for individuals who have limited knowledge of computer usage.

## **101-Accounting**

### **101-104 Database for Accounting** 2 cr

This course introduces intermediate Microsoft Access concepts with accounting applications. Students will create forms, sub forms, and reports for accounting applications. Students will also learn to use the switchboard manager, create macros, create charts, and administer a database system. In addition, students will also be introduced to PDF applications used for reporting accounting information. Prerequisite(s): 101-106 Accounting Spreadsheets and 103-102 Microsoft Office Suite.

### **101-105 Accounting, Intro to** 3 cr

This is an introductory course designed to introduce the learner to the basic accounting language and concepts of business entities. Skills such as, analyzing business transactions, applying fundamental accounting concepts, identifying accounting control procedures, and evaluating financial statements will be developed. This course is intended for the non-accounting major.

### **101-106 Accounting Spreadsheets** 2 cr

This course introduces students to intermediate Excel concepts with accounting applications. Students will utilize a variety of financial analysis, and database functions as they create, format, and modify worksheets in Excel. Prerequisite(s): 101-111 Accounting I and 103-102 Microsoft Office Suite.

### **101-111 Accounting I** 4 cr

This course prepares the learner to analyze, record, summarize and interpret accounting information. This course focuses on business transactions, financial statements, merchandising business transactions, special journals, internal controls, receivables and plant assets. The learner will prepare accounting transactions for a practice set, including month-end transactions and preparation of the financial statements.

### **101-113 Accounting II** 4 cr

This course presents basic concepts for partnerships and corporations. It introduces current liabilities, bonds, cash flow statement preparation, financial statement analysis, cost-volume profit, and budgeting. The course includes a practice set in which the student records transactions, records adjusting entries, and prepares financial statements for a corporation. Prerequisite(s): 101-111 Accounting I.

### **101-116 Intermediate Accounting I** 4 cr

This course requires the learner to apply accounting information to make business decisions. The course builds upon previously learned accounting principles and stresses a more complex application of these principles. Prerequisite(s): 101-113 Accounting II.

### **101-117 Intermediate Accounting II** 4 cr

This course is designed to utilize the students previously learned accounting concepts through a more complex application of accounting principles. Students will study fixed asset utilization, debt and equity investments, EPS calculations, and financial statement analysis. This course is primarily a problem-solving course involving considerable reasoning and logic. Prerequisite(s): 101-116 Intermediate Accounting I.

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**101-118 Managerial Accounting** 3 cr  
This course will help the accounting student learn how to use accounting information to make business decisions. The course studies cost system designs, cost management, budgeting, activity-based costing, and cash management. Prerequisite(s): 101-113 Accounting II.

**101-121 Payroll Accounting** 2 cr  
This course introduces the fundamentals of payroll accounting and payroll tax laws. Students will learn how to process payroll throughout the entire payroll processing cycle. Students will calculate payroll deductions and related deductions, make basic payroll entries, and learn how to maintain payroll records. Students will learn how and where to file federal and state payroll tax documents.

**101-123 Income Tax I** 4 cr  
This course introduces the learner to federal and Wisconsin income tax laws with an emphasis on preparation of individual and small business income tax returns. Students learn to apply federal and Wisconsin tax laws relating to gross income, exemptions, filing status, deductions, retirement plans, gains and losses, depreciation, business income and deductions, credits, special taxes, and payments. Prerequisite(s): 101-111 Accounting I.

**101-125 Cost Accounting** 3 cr  
The study of cost accounting provides a practical approach to job order and process cost accounting systems. The course blends theory with practical application of problems and case studies. Topics include budgeting, standard cost variances, direct costing, and break-even analysis. Prerequisite(s): 101-113 Accounting II.

**101-126 Income Tax Preparation** 2 cr  
This course provides students with a practical application of individual income tax laws. Students will exhibit professionalism, interview taxpayers, use tax resources, and prepare individual income tax returns using software and electronic filing. Students practice these skills while participating in the Internal Revenue Service sponsored Voluntary Income Tax Assistance program. Prerequisite(s): 101-123 Income Tax I.

**101-127 Auditing** 2 cr  
This course introduces basic auditing concepts with extensive audit methodology including work paper preparation. Prerequisite(s): 101-113 Accounting II.

**101-131 Accounting Systems** 3 cr  
Student will examine the systems development life cycle including systems principles and internal controls. They will then apply these principles and controls to various systems analysis, designs, and implementation projects. Prerequisite(s): 101-116 Intermediate Accounting I and 101-150 Accounting Software Apps.

**101-133 Acct for Govt & Nonprofit** 2 cr  
This course introduces fund based accounting used by governmental units, non-profits, and hospitals in accordance with GAAP. This course explores the governmental fund accounting cycle and budgetary requirements; the accountability of non-profit's to donors; and the unique revenue and expense streams for hospitals, while applying the financial accounting framework and reporting for each type of entity. Prerequisite(s): 101-113 Accounting II.

**101-134 Personal Financial Planning** 2 cr  
This course is designed to inform students how to manage their personal finances. The learner will prepare a personal budget, plan for retirement, evaluate investment options, analyze personal risk and analyze how to mitigate that risk through the use of insurance, analyze the use of personal credit, explore the benefits of owning versus buying a home, and the benefits of proper estate planning.

**101-150 Accounting Software Apps** 3 cr  
This course introduces students to accounting software used by small businesses. The learner will use PeachTree Complete Accounting software and QuickBooks Pro software to create and maintain accounting records and to edit and design reports and financial statements. The learner will record general ledger, receivables, payables, inventory, and payroll transactions. Note: If enrolling in an Internet section, please be advised that to complete this class at home you will be required to purchase PeachTree Complete and QuickBooks Pro student software. These software packages are included with the textbook. Prerequisite(s): 101-111 Accounting I.

**101-160 Accounting Internship** 2 cr  
Culminates the accounting program with 128 hours of accounting experience. Individuals participating in a work experience will have the opportunity to practice acquired skills and knowledge from the Accounting program coursework. This course is designed to help the student, instructor, and site supervisor to focus on major outcomes of the training and general readiness for employment in the accounting field. Prerequisite(s): 101-116 Intermediate Accounting I.

**101-184 Business Finance & Budgeting** 3 cr  
This is a basic Accounting course and not intended for Accounting program majors. The learner applies the skills necessary to achieve an understanding of the fiscal/monetary aspects of business. Each learner will demonstrate application of business types, cycles, forecasting, budgeting, expense control, and financial statement interpretation relevant to the supervisor as a non-accountant. Prerequisite(s): (101-111 Accounting I or 101-105 Accounting, Intro to).

## 102-Business Administration

**102-109 Software Skills for Bus Mgr** 2 cr  
Students will build on existing software skills to develop the expertise business managers use to perform tasks for which a computer is the primary tool. Students will enhance their hands-on ability with current software packages that may include Word, Excel, Access, and PowerPoint. Activities focus on using the software in an integrated manner to effectively and efficiently to address typical business management situations. Prerequisite(s): 103-102 Microsoft Office Suite.

**102-111 Human Resources, Intro to** 3 cr  
Topics include the nature of employee management, including recruiting, hiring, training, and developing human resources, equal employment opportunity laws, compensation, and performance appraisal.

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**102-112 Principles of Management** 3 cr  
Students learn about the four managerial functions of planning, organizing, leading, and controlling in contemporary organizations. Students gain insight into personal behaviors and how to turn managerial theories into personal managerial practices.

**102-113 Business Ethics** 3 cr  
Stresses how ethics apply specifically to business managers, management practices, and business activities. Reviews ethical responsibilities and relationships between organizational departments, divisions, business management, and the public. In case studies and discussion groups, students weigh the pros and cons of particular courses of action that affect the individual and corporate enterprise.

**102-114 Managing Operations** 3 cr  
Designed for mid-management careers, this course emphasizes practice of management skills. Topics covered include: strategic process management, manufacturing systems, operations strategy, product design, process technology selection, capacity planning, resource planning and scheduling, inventory control, project management and quality/productivity improvement tools and strategies. Prerequisite(s): 101-184 Business Finance & Budgeting.

**102-115 Business Mgmt Internship** 1 cr  
Provides the student with 80 hours of on-site experience completing managerial-type tasks in a professional office. Students may prepare training sessions, analyze budgets and prepare recommendations, draft reports, develop interview questions, screen resumes, complete project management tasks, plan events, or perform other responsibilities typical of business managers. Students coordinate with the instructor to locate an appropriate internship site. Course to be taken during the final semester. Prerequisite(s): 196-193 Human Resources, Intro and 102-112 Principles of Management and 102-113 Business Ethics and 102-116 Management Decision Making and 102-109 Software Skills for Bus Mgr. Co-requisite(s): 102-117 Planning Your Bus Mgmt Career.

**102-116 Management Decision Making** 3 cr  
Students learn and use survey construction, Internet searching, word processing, charting, problem-solving, and decision-making skills to compile and analyze data and present recommendations for typical business situations. Prerequisite(s): 102-112 Principles of Management and 103-102 Microsoft Office Suite.

**102-117 Planning Your Bus Mgmt Career** 2 cr  
To prepare for the business management internship, students produce all documentation related to the job-seeking process and participate in activities with business professional to polish students' job-seeking skills. Students meet once a week with the instructor to discuss techniques for getting and keeping a job and other career-enhancing strategies. Take during the final semester. Prerequisite(s): 196-193 Human Resources, Intro and 102-112 Principles of Management and 102-113 Business Ethics and 102-116 Management Decision Making and 102-109 Software Skills for Bus Mgr. Co-requisite(s): 102-115 Business Mgmt Internship.

**102-130 Small Business Management** 3 cr  
Buying or opening a business; business planning and layout; site selection; forms of the business; personnel; bookkeeping; office records;

customer credit; sales and service; promotion; legal aspects; insurance; purchasing; inventory control; relation to government; public relations with vendors, customers and employees.

**102-131 Introduction to Business** 3 cr  
This course introduces students to the principal areas of business, including the organization of a business, the economic, industrial, and global business environment, management and ethical issues in business, and management motivation theories.

**102-150 International Business** 3 cr  
Provides students with a basic understanding of the global economy and how companies do business in it. Areas of study include trends in world trade and investment, economic relationships among nations, international finance and currency exchange, government regulations and tariffs, communications and language barriers, and national customs.

**102-160 Business Law** 3 cr  
Business Law is designed to help the student develop an understanding of the law and the relationship of the legal system to the business world. After consideration of the legal system, the course reviews contracts, sales and lease contracts, warranties, product liability, consumer law, bailments, creditors' rights, and bankruptcy.

**102-188 Project Management** 3 cr  
The learner applies the skills and tools necessary to design, implement, and evaluate formal projects. Each learner will demonstrate the application of the role of project management by developing a project proposal, using relevant software, working with project teams, sequencing tasks, charting progress, dealing with variations, budgets and resources, implementing a project, and assessing the outcome.

**102-302 Salon Business Operations** 2 cr  
This course provides a comprehensive study of salon management for the cosmetology student in areas of business management. Topics of this course include: an overview of salon management/ownership responsibilities, decision making in business, business planning, and financial management. Co-requisite(s): 502-305 Haircutting 3 and 502-324 Salon Services 4.

**103-Computer Software**  
103-102 Microsoft Office Suite 2 cr  
The goal of this course is to provide an opportunity for students to use Microsoft Office 2010 as it is utilized in academic and business environments. Students will become familiar with the Office 2010 interface and use it as they work with Word, Excel, Access, and PowerPoint.

**103-103 Basic Keyboarding** 1 cr  
Basic Keyboarding utilizes a computer software program to introduce the touch method of keyboarding. In addition to learning to use the alphabetic keys by touch, students will also learn the top row numbers and symbols as well as the numeric keypad. For open lab delivery, the course will require a limited amount of on-campus attendance.

**103-106 Computer Success w/ Windows XP** 2 cr  
This course is for individuals with little-to-no computer experience. Here

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students will have an opportunity to gain knowledge in basic computer operations, terminology, hardware and software. An emphasis will be placed on file/document management. The course will also provide a foundation in using e-mail and the Internet.

## **103-120 MS Word 1 cr**

Students will learn the functions of Microsoft Word and basic computer data storage and retrieval. Students will use Microsoft Word to create and modify documents such as flyers, letters, resumes and office correspondence.

## **103-150 PowerPoint, Introduction to 1 cr**

Students will acquire skills in creating presentations using Microsoft PowerPoint. In addition to learning the basic functions, students will have opportunity to enhance their projects with color, pattern, text, motion, graphics and animation.

## **103-171 Excel, Intro to 1 cr**

Students will learn basic features of Microsoft Excel software which includes: formulas, functions, IF statements and the creation of charts. In addition, formatting, saving and printing of spreadsheets will be covered.

## **103-173 MS Access 1 cr**

Students will learn to use Microsoft Access to create database tables, manage data sets, and use queries along with printing of reports. In addition, students will learn to create simple forms and reports.

## **104-Marketing & Merchandising Mgmt**

### **104-102 Marketing Principles 3 cr**

Marketing of products and services. Concentrates on product, price, place, promotion, market segmentation, target marketing, pricing, market research, physical distribution and distribution channels.

### **104-104 Professional Selling 3 cr**

Acquaints the student with qualifications and personality types needed for selling. Analyzes the basic selling steps - prospecting, preapproach, approach, presentation, handling concerns, closing and follow-up.

### **104-105 Marketing Research 3 cr**

To create greater awareness of the process of marketing research including surveys, focus panels, sampling procedures, and the general steps in doing marketing research. Marketing decisions and problem-solving skills will be improved. Micromarketing and databases are included. Prerequisite(s): 104-102 Marketing Principles.

### **104-108 Retail Management 3 cr**

This course will present practical information to prepare students for today's retail environment. Past practices are fully explored, as are the innovative concepts that have become part of the fashion retailer's world. Areas of study include social responsibility, purchasing domestically and off-shore, private labels and brands, pricing and inventory, customer service, visual merchandising, and management and control functions.

### **104-111 Consumer Behavior 3 cr**

This course will address factors that influence what and why we buy.

Understanding consumer behavior provides you with tools that enable you to make sure consumers will feel a need for your product, search for, and find the intended information about your product. Applying an understanding of consumer behavior will allow customers to evaluate your product as the best alternative, buy the product and remain loyal to their product.

### **104-125 Promotion Principles 3 cr**

Promotion principles refers to non-personal communication about product services, image, or ideas to influence customer behavior. Topics include advertising, sales promotion, visual promotion, public relations, and managing the promotion function. Prerequisite(s): 104-102 Marketing Principles.

### **104-126 Promotional Design 3 cr**

This course will concentrate on the design of promotional elements that would be used in an integrated marketing communication plan. Students will continue to build their technical and visual communication skill sets in the context of graphics and web design as they explore the utilization of industry accepted design programs. This course will provide an environment that promotes learning by allowing students to apply and evaluate creative processes used in promotional design. Attention will be given to the various media used in contemporary marketing including advertising, direct marketing, internet and interactive marketing, sales promotion, social media, publicity, and public relations. We will examine the process by which integrated marketing communications programs are planned, developed, implemented, and evaluated as well as various factors and considerations that influence this process. Prerequisite(s): 104-102 Marketing Principles and 104-125 Promotion Principles and 104-152 Social Media Marketing.

### **104-140 Business to Business Selling 3 cr**

Emphasizes sales process including the approach, interviewing, demonstrating, negotiating, validating, and closing. The goal is detailed role playing in a 'nonretail' environment. Prerequisite(s): 104-104 Professional Selling.

### **104-152 Social Media Marketing 2 cr**

This course will focus on the cutting edge of technology used in marketing. Specifically we will research technology that businesses use to attract and maintain customers. In addition we will explore the technology used by marketing managers to efficiently make sound decisions related to marketing. Speakers will be brought in to demonstrate how they use the most recent technologies to search and satisfy their customers. This is a blended course; one day per week students will meet in the computer lab. The rest of the requirements for the course will be met using an online element via Blackboard. Online access is available throughout the college or you may use your home computer for access if you have an internet connection. Prerequisite(s): 104-102 Marketing Principles and 104-125 Promotion Principles.

### **104-160 Entertainment/Sports/Event Mkt 3 cr**

This course will help you develop and understanding of the marketing concepts and theories that apply to entertainment, sports and event marketing (ESEP) industries. The areas that this course will cover include: promotions, sponsorship, proposals and development & implementation of an entertainment and/or sports marketing plan. Students will learn how to use ESEP as a strategic platform to create

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publicity and brand awareness. Prerequisite(s): 104-102 Marketing Principles and 104-125 Promotion Principles.

**104-166 Enterprise Marketing & Mgmt** **4 cr**  
Hands-on application of concepts previously learned in the marketing program while participating in an actual on-campus business. Emphasis will be placed on the nine functional areas of marketing: product/service planning, promotion, purchasing, risk management, selling, distribution, financing, marketing information management, and pricing. Competencies learned in other courses will be used to run a school-based enterprise. Students research the market, determine the proper product mix, go to market to buy products to sell, and promote to CVTC students, staff, faculty, and community. Management skills will also be applied throughout the course. Teachers and students will work jointly with other programs to control inventory, market, and keep accurate records. This applied and integrated course will act as a go-between of the theories taught in the classroom and real-life situations. Prerequisite(s): 104-102 Marketing Principles and 104-104 Professional Selling and 104-125 Promotion Principles.

**104-169 Marketing Internship** **3 cr**  
Provides hands-on experience and exposure to the real-world of marketing and will also be an invaluable tool to assist in defining students' career goals and objectives. Set-up for one hour per week of class work and an average of 8 hours per week or 128 hours per semester of actual on-the-job training. Students will be expected to work with the instructor to secure acceptable internship stations. Prerequisite(s): 104-166 Enterprise Marketing & Mgmt. Co-requisite(s): 104-182 Prof Development for Marketing. Restricted to students admitted to the following program(s): 10-104-3 Marketing Management.

**104-182 Prof Development for Marketing** **2 cr**  
This course emphasizes the Professional Development Plan (PDP), with a strong personal career focus. Students will increase their self-understanding and set specific career goals. Students will create and update career credentials that will be necessary to compete in a competitive employment market. Students will prepare a professional career portfolio that will be a strong personal sales tool for their future. In addition, the course will take an in-depth review of the job search process outlining techniques and pathways to opportunities. Must have 4th semester standing. Prerequisite(s): 104-166 Enterprise Marketing & Mgmt. Co-requisite(s): 104-169 Marketing Internship. Restricted to students admitted to the following program(s): 10-104-3 Marketing Management.

**104-183 Marketing Management** **3 cr**  
The students will pull together all their learning from previous Marketing classes and apply it in a comprehensive and understandable manner. Taking a current business or starting a new business, the students in a semester-long project will work through the marketing mix, marketing research, pricing strategies, promotional strategies, organizational/management strategies, product strategies, services provided, place or distribution strategies, targeting customers, and other decisions in an extensive and inclusive project. Prerequisite(s): 104-102 Marketing Principles and 104-105 Marketing Research and 104-125 Promotion Principles.

**104-301 Salon Marketing** **2 cr**  
Students learn the marketing skills involved in operating a salon/spa as a business. Students evaluate merchandising displays, improve retail profits, and investigate various advertising and marketing media. Students learn retail product knowledge, promotion, selling techniques, positive customer relationships, and prescribe professional retail products to the customer. Prerequisite(s): 502-314 Chemical Services 2 (or taken concurrently) and 502-322 Salon Services 2 (or taken concurrently).

## 106-Office Systems/Technology

**106-100 Website Design** **3 cr**  
This course is designed to teach business and administrative professionals how to design, create, and maintain basic websites. We will explore major design principles surrounding website design and then use current web design software to develop an informational website.

**106-101 Business Technology & Trends** **2 cr**  
This course provides students with exposure and/or experience in using a variety of technologies used in today's office. The content focuses on understanding these technologies and how they impact office employees.

**106-104 Software Specialist Practicum** **2 cr**  
Students will gain experience in software troubleshooting, support, and training by working with Microsoft Office Suite students in an open-lab environment. Prerequisite(s): 103-102 Microsoft Office Suite and 106-122 Document Processing and (106-164 Business Presentations & Publ or 106-139 Business Presentations and 106-107 Business Publications) and 106-142 Business Spreadsheet Applic and 106-181 Business Information Mgmt.

**106-105 Business Words at Work** **3 cr**  
The goal of this course is to develop students into successful communicators in the business office. The course will include intense drill and review of grammar, punctuation, proofreading, spelling, and capitalization. Students will properly format and compose a variety of business documents. Prerequisite(s): 103-102 Microsoft Office Suite (or taken concurrently).

**106-107 Business Publications** **2 cr**  
This course will present basic theory and skills used in creating publications using desktop publishing techniques. Software used will include MS Word, MS Publisher, Adobe PageMaker, and Adobe PhotoShop. Prerequisite(s): 103-102 Microsoft Office Suite.

**106-110 Professional Development** **2 cr**  
Provides training and readiness in professional growth areas of job search, career growth, business and social etiquette, business ethics, assertiveness, and oral communication skills. Prerequisite(s): 106-105 Business Words at Work and 106-120 Business Technology Principles.

**106-119 eSkillbuilding** **1 cr**  
This course is designed for students who already possess correct keyboarding technique but need to improve their speed and accuracy. For hybrid delivery, the course will require a limited amount of on-campus attendance. Prerequisite(s): (DO NOT USE 30 or 103-103

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Basic Keyboarding). Restricted to students admitted to the following program(s): 10-106-6 Administrative Professional.

## **106-120 Business Technology Principles** 3 cr

Emphasis on understanding computer concepts, vocabulary, and the Windows operating system. Allows the student to explore different software applications of word processing, spreadsheet, database, and multimedia functions. Provides a solid foundation in using e-mail, Internet Web browsing, and searching.

## **106-122 Document Processing** 3 cr

The goal of this course is to expose learners to beginning through advanced features of Microsoft Word. Students will utilize newly learned skills to produce real world business documents.

## **106-132 Exploring Office Environments** 2 cr

This course introduces various aspects of administrative professional careers. Topics explored will include career expectations and responsibilities, employment opportunities, and career planning. Students will explore the role of Administrative Professionals in industries such as contact centers, educational institutions, government agencies, insurance companies, legal firms, manufacturing corporations, medical businesses and public safety organizations. Exploration of industries will take place during off-campus events and/or on-campus presentations.

## **106-138 Administrative Prof Internship** 2 cr

Office Internship allows students to put into practices the knowledge and skills learned from program courses. Students will share an overview of their internship experience during an end-of-semester presentation. Prerequisite(s): (106-101 Business Technology & Trends and 106-158 Meeting & Event Planning and 106-173 Web Technologies and 106-174 Business Software Solutions). Co-requisite(s): 106-175 Admin Professional Development. Restricted to students admitted to the following program(s): 10-106-6 Administrative Professional.

## **106-139 Business Presentations** 2 cr

Students will learn PowerPoint including those features assessed in the MOS exam for PowerPoint. Focus is also on using layout and design software such as Publisher to create eye-appealing newsletters, brochures, flyers, forms, business cards, and other business publications. Must have working knowledge of Windows, mouse, and keyboarding skills.

## **106-140 Office Procedures** 3 cr

This course provides an overview of general office skills and factors that influence work effectiveness. Students will gain knowledge in general office duties, records retention and maintenance, use of office technologies, and verbal and written communication. Students will evaluate factors that influence one's ability to work effectively. Students will also prepare job search materials.

## **106-141 Computer Applications-Legal** 3 cr

This course provides the opportunity for the learner to develop the knowledge, skills, processes, and understanding of various types of software used in the law office, including word processing, spreadsheet, calendaring, timekeeping, and billing software.

## **106-142 Business Spreadsheet Applic** 3 cr

As a student in this course, you will learn beginning to advanced features of Microsoft Excel including those assessed in the Core Microsoft Office Specialist exam. You will create, edit, and format various business spreadsheets. Topics will include formulas and functions, charts and graphics, multiple-sheet workbooks, PivotTables, PivotCharts, and database features.

## **106-144 Sprdsheet & Dbase Applic, Int** 2 cr

The goal of this course is to provide a review of basic spreadsheet and database concepts and to enhance students' knowledge with intermediate skills in both Excel and Access. Prerequisite(s): 103-102 Microsoft Office Suite.

## **106-146 Quality Customer Service** 2 cr

This course will provide an overview of customer service. Students will learn how exceptional customer service contributes to the overall impact and success of a business. Communication techniques and problem-solving skills critical to providing quality customer service will be examined. Key concepts include understanding and avoiding barriers to good customer service, dealing with challenging customers, and retaining customers.

## **106-149 Expert Software Applications** 3 cr

Students will build on existing software skills to develop the expertise tested in the Microsoft Office Specialist expert exam for Word, Excel, and Access. Word topics include creating styles, templates, and macros; tables of contents, captions, and cross-references in multi-page documents; forms, charts, diagrams; and collaboration techniques. Excel topics include what-if analysis, pivot tables and macros; advanced logical and financial functions; collaboration techniques, and scenario manager. Access topics include advanced queries, forms, and reports; data access pages; and macros and switchboards. Prerequisite(s): 106-122 Document Processing and 106-181 Business Information Mgmt and (106-142 Business Spreadsheet Applic or 106-125 Developing Spreadsh Solutions)

## **106-154 Integrated Software Applic** 2 cr

Students will have an opportunity to incorporate the features of Microsoft Word, Excel, Access, and PowerPoint to solve realistic, challenging business problems. Integration of current technology with effective business documents will allow students to expand communications beyond traditional administrative functions. Prerequisite(s): 106-122 Document Processing and 106-142 Business Spreadsheet Applic and 106-181 Business Information Mgmt and 106-164 Business Presentations & Publ or (106-139 Business Presentations and 106-107 Business Publications).

## **106-158 Meeting & Event Planning** 2 cr

This course focuses on preparing the learner to plan all components of a conference, coordinate business meetings, and plan successful business events. Event topics include all aspects of the event management process: goal setting and objectives, establishing and event theme, planning event logistics, facility set up, travel planning, follow-up activities, and international considerations. This course will also help students learn to use and apply project management tools such as MS Project to aid a business in defining, planning, controlling, and scheduling projects.

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**106-162 Legal Terminology** **3 cr**  
Emphasis is placed on developing an understanding of legal terminology through the study of law itself and on using legal terminology in many different ways. Legal terminology covers general law terms as well as specialized legal terminology. A sound knowledge of terminology is the key foundation for anyone considering a career in the legal or business world.

**106-163 Computer Success** **2 cr**  
This course is for individuals with little-to-no computer experience. Here students will have an opportunity to gain knowledge in basic computer operations, terminology, hardware, and software. An emphasis will be placed on file/document management. The course will also provide a foundation in using e-mail and the internet. Restricted to students admitted to the following program(s): 10-106-6 Administrative Professional.

**106-164 Business Presentations & Publ** **3 cr**  
This course introduces design principles related to layout, graphics, and fonts. These principles will be applied in the development of effective print and digital business presentations and publications. Prerequisite(s): 103-102 Microsoft Office Suite.

**106-171 Adv Software Applications** **3 cr**  
Students will continue their work in Office 2010 by utilizing the intermediate to advanced features of Word, Excel, and Access. Real world projects will allow students to apply these skills to actual business situations. Prerequisite(s): 103-102 Microsoft Office Suite.

**106-172 Office Communication** **2 cr**  
This course will provide experience in the use of communication and collaboration tools such as Outlook and SharePoint. Time will also be spent researching various communication tools currently used in business such as video conferencing. Students will improve their communication skills using these and other tools.

**106-173 Web Technologies** **3 cr**  
This course provides students with a basic understanding of various tools used to create web pages, wikis, and blogs. Other social and business web tools will be explored.

**106-174 Business Software Solutions** **3 cr**  
Students will use previously learned software skills to successfully complete business-related problems and scenarios. Prerequisite(s): 106-164 Business Presentations & Publ and 106-171 Adv Software Applications.

**106-175 Admin Professional Development** **2 cr**  
This course will examine aspects of expected business protocol/professionalism along with current trends and topics. This course will also provide students with an opportunity to refine job search materials and prepare for job interviews. Prerequisite(s): 106-101 Business Technology & Trends and 106-158 Meeting & Event Planning and 106-173 Web Technologies and 106-174 Business Software Solutions. Co-requisite(s): 106-138 Administrative Prof Internship. Restricted to students admitted to the following program(s): 10-106-6 Administrative Professional.

**106-181 Business Information Mgmt** **3 cr**  
The goal of this course is to expose learners to electronic information management systems. As a student in this course, you will learn beginning to advanced features of Microsoft Access. The projects in this class will give students an opportunity to manage information in a simulated business environment.

**106-188 Managing Office Finances** **3 cr**  
Students will learn fundamental accounting terminology and practices. They will analyze, document, and input business transactions in a manual and computerized accounting office environment.

## 107-Information Technology

**107-123 Computer & Oper Sys Concepts** **3 cr**  
Provides a strong foundation in computer concepts and operating systems. Through lecture, demonstration, and lab exercises, students learn operating system concepts, file management, various DOS commands, Windows, and computer hardware.

## 110-Paralegal

**110-101 Paralegal & Legal Ethic, Intro** **3 cr**  
An introduction to the legal profession, the courts, legal ethics, legal terminology, research, and the role of paralegals. Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-102 Civil Litigation I** **3 cr**  
The initial procedures associated with the preliminary stages of civil litigation, including pleadings, discovery, and motions. Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate

**110-103 Civil Litigation II** **3 cr**  
This course demonstrates the substantive law, process and procedure, and typical recurring tasks relating the post-pleadings stages of civil litigation. These include evidence, discovery (depositions, interrogatories, physical and mental exams, requests for admissions) methods of case resolution (judgment, settlement, dismissal, and alternative disputes, and requests for admissions) methods of case resolution (judgment, settlement, dismissal, and alternative dispute resolution) trial practice, post-trial and post-judgment matters, and appellate procedure. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-106 English Composition or 801-136 English Composition I or 801-219 English Composition I or Bachelor's Arts Y or Bachelor's Science Y). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-104 Legal Research** **3 cr**  
An application of legal research techniques, using traditional and computer-assisted resources. Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

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**110-105 Legal Writing** **3 cr**  
An advanced writing course concentrating on legal correspondence, forms, memoranda, and briefs. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-106 English Composition or 801-136 English Composition 1 or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-106 Family Law** **3 cr**  
Basic legal concepts in the area of family relations, including premarital agreements, parental rights, and divorce. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-106 English Composition or 801-136 English Composition 1 or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-107 Legal Aspects of Bus Organiz** **3 cr**  
Legal aspects involved in the formation, operation, and dissolution of the principal types of business organizations. Prerequisite(s): 110-103 Civil Litigation II. Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-110 Real Estate Law** **3 cr**  
Drafting real estate descriptions, listing contracts, offers to purchase, deeds, land contracts, mortgages, foreclosure pleadings, transfer tax returns, and leases. Prerequisite(s): (110-102 Civil Litigation I and 110-104 Legal Research) and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.

**110-112 Training Systems** **3 cr**  
This course provides an in-depth look at the process of employee training and development. Topics include training methods, strategic training goals, needs assessment, adult learning, training evaluation, employee orientation, selecting trainers and trends in training and development. The emphasis of this course will be on the effective deliver, assessment and application of training in the workplace. The culmination of the course is delivering a training presentation.

**110-114 Administration of Estates** **3 cr**  
Basic legal concepts of intestacy and testacy, including probate forms and procedures. Prerequisite(s): 110-103 Civil Litigation II or (Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-115 Administrative Law** **3 cr**  
The creation and interpretation of administrative rules and regulations as well as the adjudication of administrative law cases, including workers' compensation and Social Security disability laws. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y ).

Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-122 Debtor and Creditor Relations** **3 cr**  
A review of legal issues involving debtors, creditors, and third parties. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.

**110-142 Paralegal Internship** **3 cr**  
Students gain practical experience working in a legal environment under the supervision of an attorney or other qualified professional for a minimum of 144 hours. In addition, students meet one hour weekly to discuss legal office experiences and ethical considerations, learn effective job search techniques, and develop professional image. Prerequisite(s): 110-101 Paralegal & Legal Ethic, Intro and 110-103 Civil Litigation II and 110-105 Legal Writing and (110-114 Administration of Estates or 110-168 Criminal Law-Paralegal). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-143 Paralegal Field Study** **3 cr**  
Students engage in a field study of a specialty legal practice area in lieu of completing a paralegal internship. Students work with an advisor to identify an area of legal specialty study and to plan an appropriate field study. The field study includes reading textbooks and legal literature, interviewing practicing attorneys and paralegals working in the specialty area, and preparing a report and presentation. Prerequisite(s): 110-101 Paralegal & Legal Ethic, Intro and 110-103 Civil Litigation II and 110-105 Legal Writing and (110-114 Administration of Estates or 110-168 Criminal Law-Paralegal). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-147 Immigration Law** **3 cr**  
This course introduces the student to the basic law and legal concepts involved in the immigration and naturalization process. This includes entry of aliens into the United States and permanent residence based upon an offer of employment or family relationship. Additional areas of law discussed in this course will include problems individuals face with political asylum, deportation and exclusion. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1) or (Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.

**110-160 Employment Law** **3 cr**  
Analysis of federal and state laws governing employment relationships. Prerequisite(s): (110-102 Civil Litigation I and 110-104 Legal Research) and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1) or (Bachelor's Arts Y or Bachelor's Science Y ). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

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**110-168 Criminal Law-Paralegal** **3 cr**  
Analysis of federal and state laws governing employment relationships.

Prerequisite(s): 110-103 Civil Litigation II or (Bachelor's Arts Y or Bachelor's Science Y). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

**110-170 Contract Law** **3 cr**  
A course involving the formation, interpretation, and drafting of contracts. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1 or Bachelor's Science Y or Bachelor's Arts Y). Restricted to students admitted to the following program(s): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.

**110-180 Elder Law** **3 cr**  
Elder Law is an introduction to the topics in the law affecting older persons. Topics covered include family rights and responsibilities, health care decision-making, financing health care (Medicare, Medicaid); housing, guardianship and alternatives to guardianship, income maintenance (social security benefits, pensions, etc.), elder abuse and ethical issues in dealing with older clients. Prerequisite(s): 110-102 Civil Litigation I and 110-104 Legal Research and (801-136 English Composition 1 or 801-106 English Composition or 801-219 English Composition 1 or Bachelor's Arts Y or Bachelor's Science Y). Restricted to students admitted to the following program(s): 10-110-1 Paralegal, TC-110-1 Paralegal Post-Baccalaureate.

## 116-Human Resources

**116-110 Employee Benefits** **3 cr**  
In this course we will examine the wide range of employee benefit programs available today. We will study the types of benefits required by law, the discretionary benefits that employers may offer, the employee services available, and the ever dynamic retirement programs offered today. An emphasis will be on health insurance plans, cafeteria and wellness plans, and a functional approach to employee benefit planning. A course outcome will be evaluating and assessing a company sponsored benefit plan.

**116-111 Perform Mgmt & Empl Reward Sys** **3cr**  
In this course we will learn the skills set for managing employee performance including coaching, disciplining, and evaluating employees. In addition, the course will review employee rewards and compensation related to the determination of employee wages, incentives, and benefits. Specific topics covered include job evaluation systems, strategic compensation plans, payroll and individual and group incentive plans.

**116-113 Human Resource Law** **3 cr**  
In today's litigious workplace environment, understanding legal issues that directly affect individual employees and employer organizations is critical to success as a human resources professional. In this comprehensive and interactive HR Law course, students examine best practices for preventing, identifying and managing employee related issues that have potential legal concerns. Topics include legalities in hiring practices, discrimination and harassment issues, wage and hour matters, family and medical leave, the right to organize, employment-at-will and wrongful discharge, privacy rights, and a basic introduction

to state employment laws. Using a case study approach, students will be able to apply legal concepts to daily business operations and human resources policy matters.

**116-114 Recruitment & Selection** **3 cr**  
In this course we will learn the importance of human capital and its impact on organizational success. Recruiting and interviewing employees are critical for an employer's success. Topic areas covered include recruitment, selection, career development, legal issues associated with selecting employees, and roles in the selection process. An emphasis will be on strategies associated with selecting and developing of employees for organizational success. Students will be required to participate in mock interviews and networking opportunities.

**116-127 Employee Relations** **3 cr**  
Today's workforce places high expectations on their Human Resource department from communication and advice on confidential matters to recommending specific benefit options. In addition, employers expect the Human Resource department to be highly professional and competent in good employee relations. As a result, this course covers the following topics; customer service techniques, professional etiquette, confidentiality requirements, different work cultures and generational attitudes, and career paths in the Human Resource field.

**116-128 Human Resources Internship** **1 cr**  
This course culminates the Human Resources program with a minimum of 72 hours of HR work experience. Students put into practice previously learned concepts in the Human Resource field. Emphasis is placed on desirable interpersonal and professional work experience in the Human Resource field. Students are required to complete appropriate documents to ensure a successful work experience.

**116-136 Safety in the Workplace** **3 cr**  
The learner applies the skills and tools necessary to provide a safe and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies.

**116-138 Safety, Security and Risk** **3 cr**  
Human Resources is often responsible for assisting in the management of safety, health, and security risks in the workplace. In this course, students will learn skills necessary to identify and manage these workplace risks. Topics areas covered include: occupational injury and illness prevention and response programs (hazard analysis, OSHA compliance, and worker's compensation), policies and procedures to minimize loss and liability (workplace violence, substance abuse, and emergency preparedness), business continuity planning and privacy and data security issues.

**116-190 Leadership Development** **3 cr**  
Learner applies the skills and tools necessary to fulfill his/her role as a modern leader. Each learner will demonstrate the application of

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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.

## **116-193 Human Resources, Intro 3 cr**

In this course, students will examine the role of human resources and goals of human resource management in today's organizations. Students will learn and apply skills related to the various functions within human resources management including equal employment opportunity and diversity, recruitment and selection, compensation and benefits, performance management, and labor relations. Student will explore the importance and impact of these human resource functions on the overall strategy of organizations.

## **150-IT-Networking and Security**

### **150-101 PC, Networkg & Security Basics 2 cr**

This course will introduce the learner to basic PC operational concepts, operating system installation procedures, small office/home office (SOHO) PC networking concepts, local and network printing procedures, data protection and PC security focused on the curtailment of adware, spyware, and virus issues. This course is web enhanced through our Blackboard course management system and will require the learner to have access to an Internet connected PC for coursework and research between classroom sessions.

### **150-120 Network Diagramming 1 cr**

In this course, students receive hands-on training utilizing an industry-standard computer software program to document network design, layout, and architecture. Topics include the design and documentation of local area networks (LANs), wide area networks (WANs), and all popular internetworking devices. Restricted to students admitted to the following program(s): TC-150-2 IT Network Support Associate, TC-150-3 Ntwrk Hdw Support Specialist, 10-150-2 IT-Network Specialist.

### **150-121 Network Design, Instll & Tblsh 3 cr**

This course promotes a structured approach to the principles and practices involved with the planning, design, installation, implementation, testing, supporting, and troubleshooting of local and wide area networks. Training includes real-world business scenarios. Prerequisite(s): 150-153 Cisco 3: LAN Switch & Wireless and 150-180 Adv Network Oper Systems 1.

### **150-123 IT Networking Concepts 3 cr**

This course will provide strong foundational concepts that will enhance the student's understanding of workstation hardware fundamentals, operating systems fundamentals, and networking fundamentals. Through instructor lead discussions, demonstrations, and lab exercises the student will learn about the function of devices located within a workstation, learn about the devices and services that are needed for a network to function, learn how to install and configure operating systems and how to perform file management tasks in both a GUI and command line interface environments. Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist, TC-150-2 IT Network Support Associate.

### **150-134 Network Infrastructure Cnspts 2 cr**

This course provides students an overview of the fundamentals of the infrastructure elements that support computer networks and devices. Learners will study the basics of network cable installation and termination, meter usage, direct current (DC) circuits, alternating current (AC) Circuits, AC wiring, uninterruptible power supply (UPS) selection, power conditioning, power management, power over Ethernet (POE), and digital logic. The course will be delivered via a combination of reading and homework assignments, lecture/discussion sessions, and hands-on laboratory exercises. Emphasis will be placed on safety and compliance with industry standards. Restricted to students admitted to the following program(s): TC-150-2 IT Network Support Associate, 10-150-2 IT-Network Specialist.

### **150-143 Computer Hardware 4 cr**

This course addresses the fundamentals of personal computer(PC) workstations hardware systems and the integration of operating systems used by business and industry into those systems. Course topics include: integration, configuration, troubleshooting, and documentation of PC subsystems including motherboard architecture, from factors, power supplies, IDE devices and removable storage, system memory, multimedia devices, I/O devices, BIOS and boot process, and video/display fundamentals. Additionally, the integration, configuration, troubleshooting, and documentation of commonly used (current and legacy) operating systems, as they relate to system hardware, is explored. Prerequisite(s): 150-123 IT Networking Concepts and (605-134 Network Infrastructure Cncpts or 150-134 Network Infrastructure Cnspts or 605-102 Electronic Concepts).

### **150-150 Cisco 1: Network Fundamentals 3 cr**

This is the first of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The goal of this course is to introduce the student to fundamental networking concepts and technologies. Students will be introduced to the two major models used to plan and implement networks: Open System Interconnection (OSI) and Transmission Control Protocol/Internet Protocol (TCP/IP). Students will gain an understanding of the "layered" approach to networks and examine the OSI and TCP/IP layers in detail to understand their functions and services. Students will become familiar with networking terminology, network topologies, physical and logical addressing, IP address subnetting techniques, Ethernet standards, network media installation standards and testing, and the function and basic configuration of network devices such as switches and routers. Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist, TC-150-1 Cisco Networking Academy, TC-150-2 IT Network Support Associate, TC-150-3 Ntwrk Hdw Support Specialist.

### **150-151 Cisco 2: Routing Protocol/Conc 3 cr**

This is the second of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The primary focus of this course is on routing and routing protocols. This is to develop an understanding of how a router learns about remote networks and determines the best path to those networks. This course includes both static routing and dynamic routing protocols. Students will develop skills on how to create basic internetworks, configure routers, manage Cisco IOS software, and configure the major dynamic routing protocols. Advanced IP addressing topics including Variable Length Subnet Masking (VLSM) and Classless Interdomain Routing (CIDR) are also covered. Prerequisite(s): 150-150 Cisco 1: Network Fundamentals.

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## **150-153 Cisco 3: LAN Switch & Wireless 2 cr**

This is the third of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The goal of this course is to develop an understanding of how switches are interconnected and configured to provide network access to Local Area Network (LAN) users. Students will develop an understanding of how a switch communicates with other switches and routers in a small or medium-sized business network to implement Virtual LAN (VLAN) segmentation. This course focuses on Layer 2 switching protocols and concepts used to improve redundancy, propagate VLAN information, and secure the portion of the network where most users access network services. In addition, this course also covers the basic concepts of how to integrate wireless devices into a wired LAN. Prerequisite(s): 150-151 Cisco 2: Routing Protocol/Conc.

## **150-154 Cisco 4: Accessing the WAN 2 cr**

This is the last of four courses leading to the Cisco Certified Network Associate (CCNA) certification. The goal of this course is to develop an understanding of various Wide Area Network (WAN) technologies to connect small- to medium-sized business networks. The course introduces WAN converged applications and Quality of Service (QoS). It focuses on WAN technologies including Point-to-Point Protocol (PPP), Frame Relay, and broadband links. WAN security concepts are discussed in detail, including types of threats, how to analyze network vulnerabilities, general methods for mitigating common security threats and types of security appliances and applications. The course then explains the principles of traffic control and access control lists (ACLs) and describes how to implement IP addressing services for an Enterprise network, including how to configure Network Address Translation (NAT) and Dynamic Host Configuration Protocol (DHCP). IPv6 addressing concepts are also discussed. Prerequisite(s): 150-153 Cisco 3: LAN Switch & Wireless.

## **150-155 IT Management Concepts 2 cr**

This course will provide the learner with a number of skills that are required to support end users of Information Technology hardware and software. This course will provide an overview of the functions/ services provided by a help desk, develop customer support skills such as effective communication, model value-added end-user training sessions, and demonstrate effective trouble-shooting techniques. In addition this course will review current trends/technology in IT, research possible careers in IT, and help students develop job search materials such as resumes, cover letters, and portfolios specifically designed for IT positions. The learner will acquire these necessary skills through class discussions, research projects, written assignments, interviews, guest speakers, and real-world scenarios. Prerequisite(s): 150-120 Network Diagramming and 150-165 Microsoft Windows Network Adm.

## **150-160 Network Directory Services 3 cr**

Utilizing a hands-on format, this course will provide learners the foundational concepts and configuration skills necessary for the implementation, management and support of network operating systems based on Directory Service technology. Students will learn about the function and management of the Lightweight Directory Access Protocol (LDAP) database and the importance that LDAP plays within Directory Services. Specific topics include objects, naming conventions, and addressing common to Directory Services such as Active Directory, eDirectory, and NIS. Students will learn and practice important skills such as how to utilize the appropriate management techniques in each of the Directory Services to configure user information, login restrictions,

security functions and the automation of the user creation process as well as other scripted administrative tasks. Prerequisite(s): 150-150 Cisco 1: Network Fundamentals and (150-123 IT Networking Concepts or 107-123 Computer & Oper Sys Concepts). Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist, TC-150-2 IT Network Support Associate.

## **150-165 Microsoft Windows Network Adm 3 cr**

This course is intended for those who need to support and/or administer various Microsoft Windows operating systems in a networked environment, including local and domain management of accounts, policies, disk resources, printers, profiles, configurations, as well as all essential networking services (DHCP, DNS and Active Directory) to support local, domain and Internet functionality. The course provides students with the knowledge and skills necessary to perform post-installation and day-to-day administration tasks in a work group or domain based client/server network environment. Prerequisites can be fulfilled with equivalent work experience. Prerequisite(s): 150-123 IT Networking Concepts and 150-150 Cisco 1: Network Fundamentals.

## **150-170 A+ Review & Advanced Hardware 3 cr**

This course provides the learner with practical application and competency in core computer hardware and operating system maintenance and support. Practical experience will be developed in the repair, configuration, upgrading, diagnostics, and preventative maintenance of consumer PC's. These functions will be performed in the program's internal Computer Repair Center. Additionally, learners will perform the various administrative tasks associated with the Repair Center's operation such as product workflow tracking, inventory control and pre and post repair customer support. The lecture component of this course will prepare the learner to sit for the CompTIA A+ certification exams. Course fee includes the cost for a single attempt of the A+ Essentials (220-701) and A+ Practical Application (220-702) certification exams. The exam cost will be waived/refunded for those students taking the course who already hold a current CompTIA A+ certification. Prerequisite(s): 150-143 Computer Hardware or 605-123 Computer Hardware or 605-109 Industrial Computer Technology.

## **150-175 Unix System Administration 3 cr**

In this course, students will learn the process of installing and configuring the Unix operating system for single- and multi-user, stand-alone, and networked operation. Startup and shutdown, backup and recovery, file system maintenance, account and process management, networking, and software installation. Prerequisite(s): 150-123 IT Networking Concepts and 150-150 Cisco 1: Network Fundamentals.

## **150-180 Adv Network Oper Systems 1 3 cr**

This course will provide the learner with the ability to manage servers and network services utilizing a variety of network operating systems common in today's IT environment. This course will provide the learner with the skills necessary to install, configure, and manage servers and network services based on Novell, Unix, and Windows network operating systems. In this course the learner will study how to install servers and how to implement hardware unique to server installations to improve fault tolerance. The learner will acquire the skills needed to configure and manage basic network services such as directory services, DHCP, DNS, FTP, and Web services. The learner will master these skills through interactive lectures, class discussions, product demonstrations, and hands-on lab activities. Prerequisite(s): (150-162

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Network Administration or 150-160 Network Directory Services) and 150-165 Microsoft Windows Network Adm and 150-175 Unix System Administration and 150-151 Cisco 2: Routing Protocol/Conc and (605-123 Computer Hardware or 150-143 Computer Hardware).

## **150-181 Adv Network Oper Systems 2** **3 cr**

This advanced course will provide the learner with the ability to manage high-level network services hosted by servers that integrate a variety of network operation systems found in today's WAN/LAN environments. This course will provide the learner with the skills necessary to maintain advanced network services based on major network operations systems used in network security, disaster recovery, network management tools, communication services, network device configuration, and content management. The learner will master these skills through interactive lectures, class discussions, product demonstrations, and lab-based scenarios. Students completing the course will be prepared to take the CompTIA Network + certification exam at the end of the course. Course fee includes the cost for a single attempt of the Network + exam. Prerequisite(s): 150-180 Adv Network Oper Systems 1 and 150-153 Cisco 3: LAN Switch & Wireless.

## **150-182 Network Specialist Internship** **2 cr**

The purpose of this course is for the learner to obtain real-world experience by working within an IT Department for a local business or organization. Students must first obtain permission from the Director of Network Specialist Internship before enrolling in this course. The Director will coordinate the student's internship with the IT Administrator/Manager of a local business or local organization. Compensation for the internship is to be negotiated between the student and the employer. Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist.

## **150-183 Wireless Networking** **2 cr**

This course is an introduction to wireless local area networks (WLANs). Students will develop, implement, and troubleshoot wireless networks. Students will acquire competencies in wireless technologies, security, and network design practices. Course topics include WLAN setup and troubleshooting. 802.11a, 802.11b, 802.11g, and 802.11n technologies, products and solutions, site surveys, resilient WLAN design, installation and configuration, WLAN security, and vendor interoperability strategies. The course will be delivered via a combination of lecture/discussion and hands-on application laboratory. Prerequisite(s): 150-151 Cisco 2: Routing Protocol/Conc or 605-109 Industrial Computer Technology.

## **150-184 Network Security** **2 cr**

This course will utilize a hands-on approach to teach students to design and implement network security solutions that will reduce the risk of revenue loss and vulnerability. Topics include overall security processes, security policy design and management, security technologies, products and solutions, firewall and secure router design, installation, configuration, and maintenance. Prerequisite(s): 150-153 Cisco 3: LAN Switch & Wireless and 150-180 Adv Network Oper Systems 1.

## **152-IT Application Dev & Web**

### **152-101 Programming Fund - JavaScript** **3 cr**

This course is designed to be a student's first programming course.

It provides an introduction to fundamental computer programming concepts including: input-processing-output, if-then-else logic, for loops, and loops. Students use pseudo code and flowcharting tools to build problem-solving skills. Programming concepts are applied and problem-solving skills are practiced as students complete a variety of programming exercises using the JavaScript programming language. Restricted to students admitted to the following program(s): TC-152-8 Web Development 1, 10-152-1 IT-Programmer/Analyst, TC-152-14 Mobile Application Development, TC-152-5 3D Game/Sim Programming I, TC-152-6 Java, TC-152-7 .NET-VB/ASP.

### **152-102 IT-Programr Analyst Exploration** **1 cr**

This is an introductory course that explores programming concepts, examines career possibilities for graduates of the Programmer Analyst degree, and looks at current and future trends of the information technology industry.

### **152-103 .NET Application Development** **3 cr**

In this course you will learn the Visual Basic or C# language using ADO.NET for database interaction, develop subs and functions, and develop objects and classes. Prerequisite(s): 152-101 Programming Fund - JavaScript.

### **152-104 Object-Oriented Concepts** **2 cr**

As object-oriented development continues to increase in popularity, students need an understanding of the fundamental concepts. In this course students are introduced to terms and concepts used in object-oriented design and development. Those concepts serve as a sound foundation for future programming and application development classes.

### **152-105 .NET-ASP** **3 cr**

In this course you will explore the realm of ASP.NET, which is the web application development tool for .NET. You will be introduced to ASP.NET fundamentals and explore the differences between programming in Windows and web development. You will be required to create a web-based application that will be presented at the end of the semester. Prerequisite(s): 152-103 .NET Application Development.

### **152-106 Operating Systems** **2 cr**

This course provides a strong foundation in computer concepts and operating systems directed at Programmer Analyst/Web Developer professionals. Through lecture, demonstration, and lab exercises, students learn operating system concepts, file management, various DOS commands, UNIX commands, and Windows. An online offering of this course is available. Restricted to students admitted to the following program(s): TC-152-9 Web Development 2, TC-152-7 .NET-VB/ASP, TC-152-11 Dbase Analysis & Development, 10-152-1 IT-Programmer/Analyst.

### **152-107 Web 1-HTML & CSS** **3 cr**

Using HTML5 and CSS3, students create and format Web pages. Students begin with coding simple HTML web pages using a text editor. The pages become more sophisticated as students learn to incorporate things like graphics, links, tables, and forms into the HTML code. In addition, CSS is used extensively to control and enhance the layout and appearance of the web pages. Basic knowledge of Windows file management and the Internet is recommended. Restricted to students

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admitted to the following program(s): TC-152-10 Web Multimedia, TC-152-8 Web Development 1, 10-152-1 IT-Programmer/Analyst.

**152-108 Web 2 - JavaScript** **3 cr**  
This course will include a study of creating dynamic web applications using client-side JavaScript and JavaScript libraries. Prerequisite(s): 152-101 Programming Fund - JavaScript and (152-107 Web 1-HTML & CSS or 107-107 Web Programming I).

**152-112 Business Intelligence** **3 cr**  
This course introduces students to the concepts of Business Intelligence (BI) with an emphasis on report development. Beginning with an overview of basic business practices, students develop an appreciation for the importance of good business decision-making strategies - and the information systems that can impact those strategies. As business intelligence concepts (report-writing, knowledge management, data warehouse, data mining, olap) are investigated, students apply those concepts through hands-on activities with one or more industry-standard BI/reporting tools (SQL Server Reporting Tools and/or Crystal Reports). Prerequisite(s): 152-132 Database 1 and 152-103 .NET Application Development (or taken concurrently).

**152-126 Agile Prog. w Design Patterns** **3 cr**  
Agile Development consists of the planning, implementation, and delivery phases of a software product using coding standards, testing and continuous integration. This course will use aspects of Scrum (developed by Ken Schwaber and Jeff Sutherland) to facilitate and manage student projects using an agile approach. This involves planning and estimating, charting progress, testing, programming/developing intermediate solutions, and delivering the final product. Software design patterns will be explained and utilized in this course. Prerequisite(s): 152-129 Java Web Programming.

**152-129 Java Web Programming** **3 cr**  
Students will write programs using the latest Sun Java release. The focus of the class is on the use of advanced Java features necessary for real world business applications. The class will review and extend knowledge of Java; namely, Input/Output, Exception classes and packages. New material emphasized will include Collections, JDBC, Servlets and Java Server Pages. Prerequisite(s): 152-142 OO Analysis & Design-Java or 107-142 Java Programming I.

**152-132 Database 1** **3 cr**  
Designed as a first database course, this course introduces students to the concepts of relational database management and beginning SQL. Students explore the history and evolution of databases, and investigate current database usage in industry. This relational model is examined and utilized as students practice creating, populating, manipulating, and querying multi-table relational databases using both the MS Access graphical user interface and SQL. Restricted to students admitted to the following program(s): TC-152-7 .NET-VB/ASP, TC-152-9 Web Development 2, 10-152-1 IT-Programmer/Analyst, TC-152-11 Database Analysis & Development, TC-152-6 Java.

**152-133 Visual Basic.NET, Intro to** **1 cr**  
Develop visual basic programs by creating the user interface (a window), setting properties, and writing the program code. Programs will involve

forms, controls, menus, dialogs, and drop-and-drag events. Some programming experience helpful.

**152-136 Database 2** **3 cr**  
In this course students delve deeper into the world of databases. SQL experience is expanded to include techniques like inner- and outer- joins, nested queries, stored procedures, SQL scripting, and more. In addition, relational database design becomes a part of the students' skill set as they practice data normalization, draw Entity-Relationship Diagrams, and develop relational data models. Visio, Dia, MySQL, and MSAccess are among the software tools used to give students practical experience with the creation, documentation, and testing of their relational database designs. Prerequisite(s): 152-132 Database 1.

**152-142 OO Analysis & Design-Java** **3 cr**  
This course is designed for a first course in Java. Students will learn to create Java classes and write their own methods. Basic programming skills, such as decision-making, looping, string manipulation, and arrays are covered. The second half of the course explores advanced topics, such as inheritance, graphics, exception handling, and file processing.

**152-143 Information Technology Capstone** **2 cr**  
This course brings skills learned in previous IT Programmer/Analyst courses together in a team-based business environment. Student teams will work through the life-cycle of a programming application project that covers requirements gathering through the production phase. Students will bring various technologies together to complete their applications in an efficient manner. Prerequisite(s): (152-125 Information Architecture or 107-125 Information Architecture) and (152-132 Database 1 or 107-132 Database Application Development) and (152-105 .NET-ASP or 152-142 OO Analysis & Design-Java or 107-142 Java Programming I or 152-164 Database-Driven Web Design/Dev or 107-164 Data Mining Concepts).

**152-151 Mobile Application Development** **3 cr**  
In this course, students will learn to design and construct programs/applications for mobile devices such as the iPhone, Droid, and/or others. The course provides hands-on activities using an SDK (software development kit), along with instructions and guidelines for application deployment. Prerequisite(s): 152-142 OO Analysis & Design-Java.

**152-159 Web Multimedia** **3 cr**  
Create animation for the web using HTML 5's Canvas element, CSS3, and JavaScript. The jQuery library will be explored to create dynamic web content and animation of web page components. Other animation tools may be explored as time permits. Prerequisite(s): 152-101 Programming Fund - JavaScript and 152-107 Web 1-HTML & CSS.

**152-160 Object-Oriented C Programming** **3 cr**  
Provides an introduction to computer programming logic using the C-based Object Oriented Programming language. This course will give the student a basic understanding of problem-solving skills using a computer programming language. Practical experience with programming concepts will be gained through demonstration and hands-on lab exercises with input/output, data types, arrays, and control structures. Prerequisite(s): 152-101 Programming Fund - JavaScript.

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## **152-161 3D Modeling 1**

**3 cr**

Provides an introduction to 3D computer graphic creation using a sophisticated vendor graphic development package (3ds max). This course will give the student a basic understanding of the graphics package which includes modeling, texturing, lighting, and rendering 3D scenes

## **152-162 3D Game/Simulation Programming**

**3 cr**

3D Simulation Programming provides an introduction to simulation programming using an industry standard simulation engine and 3D graphic package. The student will learn how to incorporate 3D models into simulation engine to program an interactive 3D simulation. Prerequisite(s): 152-101 Programming Fund - JavaScript and 152-161 3D Modeling 1 (or taken concurrently).

## **152-164 Database-Driven Web Design/Dev**

**3 cr**

Explore topics in server-side web development using PHP. The learner will get hands-on experience in the PHP environment with database applications using PHP and MySQL, sessions, cookies, string-handling, and other related topics. Prerequisite(s): 152-108 Web 2 - JavaScript and (152-132 Database 1 (or taken concurrently) or 107-132 Database Appic Development (or taken concurrently).

## **152-165 3D Modeling 2**

**3 cr**

This intermediate course provides a more in-depth, hands-on investigation of 3D modeling including an introduction to character modeling. The topics of lighting, camera views, and animation will be further explored. This course will also introduce particle systems to simulate real world physical events such as water effects and weather, rigid body and softbody dynamics. Prerequisite(s): 152-161 3D Modeling 1.

## **152-166 IT-P/A Capstone**

**2 cr**

This advanced course provides further hands-on experience in programming and/or 3D simulation development. Students will work in small groups to create an application or 3D simulation. Students will be required to use project management techniques during the development process. Prerequisite(s): (152-161 3D Modeling 1 and 152-162 3D Game/Simulation Programming) or 152-108 Web 2 - JavaScript. Restricted to students admitted to the following program(s): 10-152-1 IT-Programmer/Analyst, TC-152-13 3D Game/Sim Programming 2.

## **152-168 Multimedia Program & Design**

**3 cr**

This course will continue to build on the skills practiced in the Web Multimedia course. This course will focus on creating more powerful and entertaining web applications as well as design and development of mobile web applications using HTML 5, CSS3, and iQuery. Prerequisite(s): 152-159 Web Multimedia.

## **152-182 Programmer/Analyst Internship**

**3 cr**

Students are encouraged to find an internship while enrolled in the Information Technology - Programmer Analyst program. Student interns may perform duties such as the following: programming business applications, web page design and development, database applications, systems analysis, and report writing. This internship may start any time of the year. Students are responsible for finding an internship prior to enrolling in this course. Students are required to keep the instructor apprised of work activities via e-mail, face-to-face visits, and

Blackboard discussions. Prerequisite(s): 152-107 Web 1-HTML & CSS. Restricted to students admitted to the following program(s): 10-152-1 IT-Programmer/Analyst

## **152-199 Programmer/Analyst Ind. Study**

**2 cr**

Prerequisite(s): 152-107 Web 1-HTML & CSS.

## **176-Records & Information Mgmt**

### **176-105 Foundations of RIM**

**3 cr**

Course helps students understand the role of the records manager and the relationships between records management and related fields. Students will explore ways to garner management support for records management in their business environment. They will begin the initial processes and activities involved in conducting a records inventory and preparing retention schedules for both paper and electronic records. Current legislation as it affects records in business practice will be considered.

### **176-108 RIM Fundamentals**

**3 cr**

Elaborates on the practices and techniques used in records management by completing further activities involving retention schedules, vital records protection, and disaster recovery programs for both paper and electronic records. Current litigation support issues as they affect records in business practice will continue to be considered. Prerequisite(s): 176-105 Foundations of RIM (or taken concurrently).

### **176-111 Records Classification Systems**

**3 cr**

The course covers hands-on applications for manual and electronic records classification systems including alphabetic, numeric, geographic, and subject systems. Students will also study facilities and equipment for storage, maintenance, and retrieval of manual and electronic records.

### **176-121 Records & Info Technology**

**3 cr**

Students will explore information technology systems in the records management field, including various imaging technology such as microfilm, fiche, optical, and digital systems. Activities will consider how the technology affects the creation, retention, storage, and disposition of paper, electronic, and Web-based records. Prerequisite(s): 176-108 RIM Fundamentals and 176-111 Records Classification Systems.

### **176-140 RIM Applications**

**3 cr**

Students will apply knowledge gained in previous certificate courses to

complete major projects and hands-on applications in areas relevant to their business situations. Student may choose from areas such as retention scheduling, vital records protection and disaster recovery, imaging, and electronic records management, including e-mail and Web-content management. Trends and emerging issues will also be explored. Prerequisite(s): 176-121 Records & Info Technology.

## **196-Supervision & Leadership Dev**

### **196-136 Safety in the Workplace**

**3 cr**

The learner applies the skills and tools necessary to provide a safe

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and secure work environment. Each learner will demonstrate the application of safety awareness, federal/state/local compliance, incident investigation and documentation, human relations techniques, safety orientation, inspections, risk analysis, issues of workplace violence, substance abuse, and health hazards, first aid and CPR, fire and electrical safety, emergency preparedness, and liaison with external agencies. Industrial Engineering students should contact a counselor at 1-800-547-2882 ext. 6346 or 715-833-6346 to register for this course. Prerequisite is not required when course is delivered via the Internet.

## 307-Early Childhood Education

### 307-148 ECE: Foundations of ECE 3 cr

This course introduces you to the early childhood profession. Course competencies include: integration of strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; explore early childhood curriculum models. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

### 307-151 ECE: Infant & Toddler Dev 3 cr

In this course you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; analyze development of infants and toddlers (conception to three years); correlate prenatal conditions with development; summarize child development theories; analyze the role of heredity and the environment; examine research-based models; examine culturally and developmentally appropriate environments for infants and toddlers. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

### 307-152 Adm/Superv-Early CC Education 3 cr

An overview of roles and responsibilities of directors, supervisors, coordinators, and other administrators in early childhood programs. This course is the first of six courses required for the Child Care Administrator Credential Certificate.

### 307-165 Hlth, Safety, Nutr for Yng Chd 3 cr

Focuses on the legal and ethical responsibilities of early childhood education professionals in providing for the health, safety, and nutrition of young children. Learners examine governmental practice skills to assess indoor and outdoor environments for safety, employ universal precautions for routine care of children, respond to emergency situations, conduct health assessments, and guide children in developing healthy food habits.

### 307-166 ECE: Curriculum Planning 3 cr

This course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; examine caregiving routines as curriculum; develop activity plans that promote child development and learning; develop unit plans that promote child 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. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

### 307-167 ECE: Hlth Safety & Nutrition 3 cr

This course examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; follow governmental regulations and professional standards as they apply to health, safety, and nutrition; provide a safe early childhood program; provide a healthy early childhood program; provide a nutritionally sound early childhood program; adhere to child abuse and neglect mandates; apply Sudden Infant Death Syndrome (SIDS) risk reduction strategies; incorporate health, safety, and nutrition concepts into the children's curriculum. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

### 307-174 ECE: Practicum 1 3 cr

In this practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: document children's behavior; explore the standards for quality early childhood education; explore strategies that support diversity and anti-bias perspectives; implement activities developed by the co-op teacher/instructor; demonstrate professional behaviors; practice caregiving routines as curriculum; practice positive interpersonal skills with children; practice positive interpersonal skills with adults. Prerequisite(s): 307-148 ECE: Foundations of ECE (or taken concurrently) or 307-110 Early Childhood Educ, Intro to (or taken concurrently). Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services

### 307-178 ECE: Art Music & Lang Arts 3 cr

This course will focus 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; 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. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services

### 307-179 ECE: Child Development 3 cr

The course examines child development within the context of the early childhood education setting. Course competencies include: analyze social, cultural, and economic influences on child development; summarize child development theories; analyze development of children age three through age eight; summarize the methods and designs of child development research; analyze the role of heredity and the environment. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

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## **307-187 ECE: Children w Diff Abilities** 3 cr

The course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/emotional disorders; work collaboratively with community and professional 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. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-188 ECE: Guiding Child Behavior** 3 cr

This course examines positive strategies to guide children's behavior in the early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; summarize early childhood guidance principles; analyze factors that affect the behavior of children; practice positive guidance strategies; develop guidance strategies to meet individual needs; create a guidance philosophy. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-192 ECE: Practicum 2** 3 cr

In this practicum course you 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 interpersonal skills with children; utilize positive interpersonal skills with adults. Prerequisite(s): 307-174 ECE: Practicum 1 or 307-138 Early Childhood Practicum I. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-194 ECE: Math Science & Soc St** 3 cr

This course will focus on beginning level curriculum development in the specific content areas of math, science, and social studies. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; develop activity plans that promote child development and learning; create developmentally appropriate science activities; create developmentally appropriate math activities; create developmentally appropriate social studies activities. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-195 ECE: Family & Community Rel** 3 cr

In this course you will examine the role of relationships with family and community in early childhood education. Course competencies include: implement strategies that support diversity and anti-bias

perspectives when working with families and community; analyze contemporary family patterns, trends, and relationships; utilize effective communication strategies; establish ongoing relationships with families; advocate for children and families; work collaboratively with community resources. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-197 ECE: Practicum 3** 3 cr

In this practicum course you will learn about and apply the course competencies in an actual child care setting. The course competencies include: assess children's growth and development; implement the standards for quality early childhood education; integrate strategies that support diversity and anti-bias perspectives; build meaningful curriculum; provide a developmentally appropriate environment; facilitate positive guidance strategies; evaluate one's own professional behaviors and practices; lead caregiving routines as curriculum; utilize positive interpersonal skills with children; utilize positive interpersonal skills with adults. Prerequisite(s): 307-192 ECE: Practicum 2 or 307-139 Early Childhood Practicum 2. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-198 ECE: Admin an ECE Program** 3 cr

This course 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. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **307-199 ECE: Practicum 4** 3 cr

In this practicum course you will learn about and apply the course competencies in an actual child care setting. Course competencies include: analyze children's growth and development based on assessment; integrate strategies that support diversity and anti-bias perspectives; promote professional behaviors and practices; implement meaningful curriculum; create respectful, reciprocal relationships; evaluate early childhood education programs for quality; explore professional options in early childhood education. Prerequisite(s): 307-197 ECE: Practicum 3 or 307-145 Early Childhood Practicum 3. Restricted to students admitted to the following program(s): 10-307-1 Early Childhood Education, 31-307-1 Child Care Services.

## **401-Air Conditioning, Refrigeration & Heating**

### **401-302 Basic Refrig & Air Cond** 4 cr

Students learn the fundamental principles of the refrigeration circuit. A special effort is made to correlate the fundamental theories and principles to the actual practices that are used in the refrigeration and air conditioning industry. Prerequisite(s): 401-351 Basic Electricity HVACR (or taken concurrently). Co-requisite(s): 401-303 Appl of Refrig & Air Co.

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## **401-303 Applic of Refrig & Air Cond 4 cr**

The operation and maintenance of domestic and commercial refrigeration and air conditioning systems is the main emphasis of this course. Students learn to work with all the tools and equipment needed to operate a refrigeration and air conditioning system. Co-requisite(s): 401-302 Basic Refrig & Air Co.

## **401-304 Refrig Sys Install & Service 4 cr**

Students learn the techniques to install, test, maintain, and troubleshoot residential and commercial refrigeration systems. Students will have the benefit of learning in a well-equipped lab that provides experience on both residential and commercial refrigeration systems. Prerequisite(s): 401-303 Applic of Refrig & Air Cond. Co-requisite(s): 401-305 Air Cond Sys Install & Service.

## **401-340 Basic HVAC Concepts 2 cr**

This course deals with how air is treated by HVAC (Heating, Ventilating, and Air Conditioning) equipment to maintain health and comfort. It will assist the beginning or less experienced comfort specialist in understanding the principles that underlie present day heating, ventilation, and air conditioning equipment, both residential and commercial.

## **401-350 Refrigeration Systems 2 cr**

Fundamental principles of refrigeration and air conditioning systems. Refrigerant reclamation, soldering, and brazing, piping, and installation of systems.

## **401-351 Basic Electricity HVACR 2 cr**

Electric principles, controls, motors, schematics, and systems are applied as they relate to refrigeration, air conditioning, and heating systems. Note: This course requires the purchase of a tool kit for approximately \$500.

## **404-Automobile - Mechanical**

### **404-303 Elec Cir Trblsh & Adv Body Sys 2 cr**

Students will develop the skills needed to read and apply technical information, specifications, and strategy based diagnostic procedures for use in electrical circuit/systems troubleshooting. Classroom instruction and hands-on training are provided on how to use electrical wiring diagrams, component locators, and basic testing tools (such as jumpers, test lights, and DVOMs) to identify and isolate 'open,' 'short' and 'high resistance' faults in automotive lighting and accessory system circuits. Specific advanced body electrical systems diagnosis and service includes passive restraint and air bag systems, conventional and electronic instrumentation, and cruise control systems. 'Scan' tool diagnostics on newer vehicles are covered as they relate to these systems. Co-requisite(s): 404-333 Auto Elec, Eng & Body Elec Sys. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech.

### **404-306 Brake Sys & Engine Repair 5 cr**

This course is based on ASE/NATEF competencies for brake system (80 hours) and engine mechanical repair (80 hours). Students can develop the knowledge needed to apply the technical information, specifications, and repair procedures used in brake, engine mechanical, and cooling

system service. Competencies include the skills needed to safely and correctly use tools and equipment to service disc brakes, drum brakes, drum and motor machining, power brakes, rear-wheel disc brakes and cooling systems (flushing, cylinder head/valve train systems, including timing belts and chains, short-block assemblies and lubrication systems). Videotapes are used to individualize the instruction of equipment operation. Prerequisite(s): 404-303 Elec Cir Trblsh & Adv Body Sys and 404-333 Auto Elec, Eng & Body Elec Sys. Co-requisite(s): 404-307 Antilock Brk & Eng Mech Diag.

### **404-307 Antilock Brk & Eng Mech Diag 2 cr**

This course is based on ASE/NATEF competencies for ABS (40 hours) and engine mechanical diagnosis (40 hours). Students can develop the knowledge needed to apply the technical information, specifications, and repair procedures used in ABS and diagnosing engine mechanical problems. Prerequisite(s): 404-303 Elec Cir Trblsh & Adv Body Sys and 404-333 Auto Elec, Eng & Body Elec Sys. Co-requisite(s): 404-306 Brake Sys & Engine Repair.

### **404-321 Steering Susp & Manual Drv Trn 5 cr**

This course is based on ASE/NATEF competencies and includes 100 hours of suspension, steering, and wheel alignment, along with 60 hours of drivetrains. Students can develop the knowledge needed to read and apply technical information, specifications, and repair procedures used in chassis and drivetrain servicing. Competencies include the skills needed to safely use tools and equipment to diagnose and repair MacPherson strut, short and long arm, and sport utility/light truck suspension systems; power and manual steering systems, including rack and pinion; tires and wheels; wheel bearings; 4X4 hubs and axles; four-wheel alignment with up-to-date computerized equipment; clutches; manual transmissions; differentials; constant velocity and cardan universal joints; and related drivetrain components. Co-requisite(s): 404-353 Info Sys & Rel Drive Trai. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech.

### **404-333 Auto Elec, Eng & Body Elec Sys 5 cr**

A course of study designed to provide the student with an understanding of electrical fundamentals, including electrical/electronic terminology, electrical components, circuits, measurements, and Ohm's Law relationships. Lab work involves basic, series, and parallel circuit analysis using digital volt-ohmmeters. Automotive body electrical systems (lighting, safety, and powered accessory) circuits are studied with related lab work involving locating/replacing circuit components, lamp replacement, headlight aiming, and circuit repair. Engine electrical systems (battery, starting, charging, and cooling fan circuit) coverage includes testing with specialized VAT and AVR equipment. Practice in applying wiring diagram interpretation and circuit troubleshooting skills will continue with customer supplied vehicles. Co-requisite(s): 404-303 Elec Cir Trblsh & Adv Body Sys. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech.

### **404-334 Auto Elec & Computer Systems 2 cr**

This course covers basic electronic components and circuits leading to an understanding of automotive computer system operation. Fundamentals of electronics, semiconductor materials, diodes, zener diodes, transistors, analog and digital signals, computer memory, and processor inputs and outputs will be related to basic computer operation. Specific instructions for locating diagnostic resources, vehicle data

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access, fault code interpretation, and diagnostic strategy will be related to General Motors, Chrysler, and Ford OBD I (On Board Diagnostics-first generation) engine control systems. Second generation On Board Diagnostics (OBD II) system function and testing will include generic as well as manufacturer specific scan tool use and testing procedures. Prerequisite(s): 404-303 Elec Cir Trblsh & Adv Body Sys and 404-333 Auto Elec, Eng & Body Elec Sys. Co-requisite(s): 404-340 Engine Performance.

**404-335 Automotive Fundamentals** **1 cr**  
A course of study designed to provide the student with an overview of the automotive program along with shop equipment and safety. Computer-based SP2 online safety training will be utilized. Also included is instruction on hand & power tool operation, fastener identification, vehicle lifting procedures, ASE certification criteria, career exploration, and history of the automobile industry. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech., 32-404-2 Automotive Technician.

**404-336 Basic Vehicle Maintenance** **3 cr**  
A course of study designed to provide the student with the skills necessary to perform vehicle maintenance operations such as oil changes, chassis lubrication, tire rotations and inspections. Students will inspect chassis and brake systems, perform safety inspections, maintenance light reset procedures, and retrieve OBD II DTCs.

Prerequisite(s): 404-335 Automotive Fundamentals (or taken concurrently). Co-requisite(s): 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2.

**404-337 Automotive Electricity 1** **2 cr**  
A course of study designed to provide the student with the skills needed to understand electrical fundamentals, including electrical/electronic terminology, electrical components, circuits, measurements, and Ohm's Law relationships. Classroom instruction and hands-on training are provided on how to use electrical wiring diagrams, component locators, and basic testing using industry standard tools to identify and isolate 'open', 'short' and 'high resistance' faults in automotive electrical system circuits. Automotive electrical circuits are studied with related lab work involving locating/replacing circuit components, wire & terminal repair using industry-approved techniques; battery diagnosis, testing & replacement; and electrical cooling fan diagnosis. Prerequisite(s): 404-335 Automotive Fundamentals (or taken concurrently). Co-requisite(s): 404-336 Basic Vehicle Maintenance and 404-338 Automotive Electricity 2.

**404-338 Automotive Electricity 2** **3 cr**  
A course of study designed to provide the student with the skills needed to read and apply technical information, specifications, and strategy based diagnostic procedures for use in troubleshooting chassis electrical systems: starting, charging, instrument panel, lighting, powered accessories, and relay controlled circuits. Chassis electrical systems coverage includes testing with industry standard testing equipment. Prerequisite(s): 404-335 Automotive Fundamentals (or taken concurrently). Co-requisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1.

**404-339 Automotive Brake Systems** **4 cr**  
A course of study designed to provide the student with the skills needed to diagnose, service and repair foundation brake systems found on cars and light-duty trucks using industry standard equipment. Prerequisite(s): 404-335 Automotive Fundamentals (or taken concurrently).

**404-340 Engine Performance** **5 cr**  
Engine performance competencies are covered for diagnosis and repair of distributor (DI) and distributorless (EI) ignition systems. Ignition system primary circuit testing will be related to no start/hard start-fault diagnosis. Ignition system secondary testing will utilize engine analyzer oscilloscope patterns to verify system performance. Basic air/fuel delivery system testing will also be related to no start/hard start-fault diagnosis. Pressure and volume tests will be used to verify fuel pump operation. Students will be able to safely remove and replace in-tank fuel pumps. Both throttle body and port fuel injection system testing will include computer system On-Board Diagnostics accessed with a 'scan' tool as well as specialized equipment for testing and analyzing fuel injectors. Fuel system service will include filter replacement, as well as throttle valve, intake manifold, and injector cleaning. Practice in applying servicing, diagnostic, and repair skills will continue with customer supplied vehicles. Prerequisite(s): 404-303 Elec Cir Trblsh & Adv Body Sys and 404-333 Auto Elec, Eng & Body Elec Sys. Co-requisite(s): 404-334 Auto Elec & Computer Systems.

**404-350 Auto Steering & Suspension Sys** **4 cr**  
A course of study designed to provide the student with the skills needed to diagnose, service and repair suspension systems found on cars and light-duty trucks using industry standard equipment, with an emphasis on component identification, inspection, diagnosis & replacement. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems. Co-requisite(s): 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3.

**404-351 Auto Engine Performance 1** **2 cr**  
A course of study designed to provide the student with the skills needed to explain how an internal combustion engine operates and develops horsepower and torque. Students will disassemble an internal combustion engine, identify & measure components, reassemble engine using industry standard tools and procedures, and perform basic engine tests. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems. Co-requisite(s): 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3.

**404-352 Auto Engine Performance 2** **3 cr**  
A course of study designed to provide the student with the skills needed to diagnose, service & repair automotive ignition and fuel systems. The student will learn maintenance and troubleshooting and procedures for late-model vehicles using various types of engine, fuel pressure and exhaust diagnostic equipment. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems. Co-requisite(s): 404-351 Auto Engine Performance 1 and 404-355 Auto Engine Performance 3.

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## **404-353 Info Sys & Rel Drive Train** **2 cr**

The first 40 hours includes repair order completion, time/labor guides and estimating procedures, consumer protection/estimating laws, mechanic liens, and hazardous materials handling. The course also covers how to use service manuals of all types and DVD data system, plus how to study, take notes, and keep up-to-date on the job (bulletins, trade publications, service schools, and after-market training). The second 40 hours is based on ASE/NATEF competencies for automatic transmissions/transaxels. Students can develop the knowledge needed to apply technical information, specifications, and repair procedures used in automatic transmission/transaxle servicing. Co-requisite(s): 404-321 Steering Susp & Manual Drv Tr. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech.

## **404-355 Auto Engine Performance 3** **3 cr**

A course of study designed to provide the student with the skills needed to diagnose, service and repair automotive computer controls and emission control systems. Basic electronic components and circuits are reviewed, leading to an understanding of automotive computer systems operations. Fundamentals of electricity, electronics, semiconductor materials, diodes, transistors, analog & digital signals, computer memory, sensors, actuators, and processor inputs/outputs will be related to basic computer operation. Specific instructions for locating diagnostic resources, vehicle data access, fault code interpretation, and diagnostic strategy will be related to On-Board Diagnostics engine control systems. Testing will include industry standard generic as well as manufacturer specific scan tool use and testing procedures. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems. Co-requisite(s): 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2.

## **404-356 Automotive HVAC Systems** **3 cr**

A course of study designed to provide the student with the skills needed to diagnose, service and repair heating, ventilating, and air conditioning systems in automobiles. The student will be able to evacuate and recharge A/C systems, convert A/C systems from R-12 to R134a refrigerant according to industry standards, and perform component replacement. Students will be able to diagnose and repair computerized climate control systems. Upon successful completion of the course, the student will be licensed to perform A/C repairs in the state of Wisconsin. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems and 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3. Co-requisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles.

## **404-357 Auto Safety & Security Systems** **2 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair safety, security, and entertainment systems on late-model automobiles. Inflatable restraints, theft deterrent, navigation, and collision avoidance systems will be explored. Coursework will continue with radios, GPS, integrated DVD systems, and cellular and satellite based communication. Prerequisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains

and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles. Co-requisite(s): 404-363 Engine Repair and 404-370 Adv Auto Chassis Systems and 404-371 Adv Engine Perf & Alt Fuels.

## **404-360 Auto Axles & Drive Trains** **2 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair automotive axles and drive trains. Coursework includes: wheel bearings, constant velocity joints, drive shafts & u-joints, and differential units. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems and 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3. Co-requisite(s): 404-356 Automotive HVAC Systems and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles.

## **404-361 Manual Transmission & Trnsaxles** **3 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair manual transmissions & transaxels on late-model vehicles. Coursework includes: hydraulic clutches, manual transmission theory & application, and the repair & overhaul of a manual transmission. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems and 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3. Co-requisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains and 404-362 Auto Transmission & Trnsaxles.

## **404-362 Auto Transmission & Trnsaxles** **4 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair automatic transmissions & transaxels on late-model vehicles. Students will explore the principles of hydraulic and electronic controls as it relates to the automatic transmission. This includes operation of solenoids, sensors, seals, hydraulic clutches, servos, planetary gear sets & drives, and performing a failure evaluation along with a major overhaul of a late-model automatic transmission. Prerequisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2 and 404-339 Automotive Brake Systems and 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2 and 404-355 Auto Engine Performance 3. Co-requisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles.

## **404-363 Engine Repair** **4 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair internal combustion, engines found on late-model vehicles. Coursework includes: lubrication systems, valve timing, leak diagnosis and repair, engine noise & failure diagnosis, valve service, cylinder head replacement, and engine removal/replacement procedures. Prerequisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission &

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Trnsaxles. Co-requisite(s): 404-357 Auto Safety & Security Systems and 404-370 Adv Auto Chassis Systems and 404-371 Adv Engine Perf & Alt Fuels.

**404-370 Adv Auto Chassis Systems** **3 cr**  
course of study designed to provide the student with the skills needed to diagnose, service, and repair advanced suspension components found on late-model vehicles. Coursework includes: wheel alignment, anti-lock brakes, tire pressure monitoring, electric steering, active suspension, and vehicle stability control, and traction control systems. Prerequisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains and 404-361 Manual Trnsmission & Trnsaxles and 404-362 Auto Trnsmission & Trnsaxles. Co-requisite(s): 404-357 Auto Safety & Security Systems and 404-363 Engine Repair and 404-371 Adv Engine Perf & Alt Fuels and 404-374 ASE Test Preparatio.

**404-371 Adv Engine Perf & Alt Fuels** **3 cr**  
A course of study designed to provide the student with the skills needed to operate a 4 or 5 gas analyzers and explain how they are used to analyze engine performance. Diesel engines will be explored. Compressed Natural Gas (CNG), ethanol, hybrid vehicles, fuel cells, and other alternative fuels will be discussed. Technician and Responder safety when working with these issues will also be included. Prerequisite(s): 404-356 Automotive HVAC Systems and 404-360 Auto Axles & Drive Trains and 404-361 Manual Trnsmission & Trnsaxles and 404-362 Auto Trnsmission & Trnsaxles. Co-requisite(s): 404-357 Auto Safety & Security Systems and 404-363 Engine Repair and 404-370 Adv Auto Chassis Systems and 404-374 ASE Test Preparatio.

**404-372 Service Simulation** **3 cr**  
Students will be diagnosing and repairing vehicles in all areas of repair. Students will also assume the roles of service manager, service advisor, and shop foreman. Emphasis will be placed on the skills needed to own/manage an automobile service facility. Prerequisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Trnsmission & Trnsaxles and 404-362 Auto Trnsmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-370 Adv Auto Chassis Systems and 404-371 Adv Engine Perf & Alt Fuels and 404-373 High Performance Automotive and 404-374 ASE Test Preparatio.

## 405-Auto Body Chassis & Finish

**405-300 Explor Auto Body Repair & Refn** **1 cr**  
Designed principally to orientate high school Juniors and Seniors to the auto collision trade in general. Designed to explore the curriculum of the full-time, ASE approved Auto Collision program as well as the nature and the job description of a full-time auto collision technician journeyworker. Will provide practical and realistic knowledge in basic tool usage, safety, paint preparation, straightening procedures, welding, dent repair on practice panels, and painting techniques.

**405-301 Introduction to Auto Collision** **1 cr**  
This course is designed to prepare students for entry into the Auto Collision Program. Emphasis will be placed on lab safety. Program orientation, and customer vehicle processes. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-352 Advanced Collision Repair** **5 cr**  
Students will learn the techniques associated with mechanical repair or replacement of mechanical components related to collision. Restoration/customizing are not available as a part of this course. Prerequisite(s): 405-358 Structural Repair (or taken concurrently). Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-355 Auto Body Basics** **5 cr**  
This course will give students the opportunity to acquire skills in basic metal finishing techniques, body panel repair techniques, plastic filler application, and surface preparation. Prerequisite(s): 405-382 Paint Technology (or taken concurrently) and 442-315A Welding for Auto Collision (or taken concurrently). Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-356 Nonstructural Repair** **5 cr**  
Students will develop skills in repair of minor and major dent repair, nonstructural. Prerequisite(s): 405-355 Auto Body Basics (or taken concurrently). Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-357 Refinishing** **5 cr**  
Students will complete paint jobs, spot repair, color blending, sanding techniques and taping. Prerequisite(s): 405-356 Nonstructural Repair.

**405-358 Structural Repair** **5 cr**  
Students will determine types and levels of damage to Unibody and frame vehicles. Skill in measuring needed repairs will be developed.

Prerequisite(s): 405-357 Refinishing (or taken concurrently).

**405-375 Estimating & Structural Repair** **2 cr**  
Terms, abbreviations, and vehicle identification necessary for estimating collision damage will be learned. Emphasis will be placed on following estimating procedures along with development of damage estimate writing skills. Students will acquire the knowledge necessary to conduct an inspection and perform damage analysis, both structural and non-structural. Prerequisite(s): 405-356 Nonstructural Repair and 405-382 Paint Technology. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-381 Auto Collision Mechanical** **1 cr**  
This is an eight-week theory and lab course offered only in the summer. Designed to promote skills in repairing mechanical damage caused by collision. Diagnosis and repair or replacement of steering and suspension parts, brakes, and drive axles. Practical hands-on work to learn removal and replacement of mechanical parts, cooling system, and air conditioning components. Basic wheel alignment, auto body air conditioning, and auto body electrical will be studied. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

**405-382 Paint Technology** **2 cr**  
Automotive refinishing basics includes history of automotive refinishes, paint shop equipment, safety, undercoats, solvents, top coats, problems

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and solutions. Color matching and blending includes color theory, appearance factors, types of finishes, preparation for painting, equipment and painting area, color testing, color blending and detailing using introductory I-CAR course materials. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

## 410-Carpentry

### 410-314 Wood Technics Internship 1 cr

This is a fourth quarter course in the Wood Technics program. The student will work with a local contractor for a period of one week. They will work full days starting at the company's normal starting time and work as an integral part of a construction crew. The student should gain an understanding for the physical and mental demands on a real construction site. They will also have an opportunity to apply the different skills and knowledge they have learned in the classroom and apply it to the work site. Co-requisite(s): 410-309 Wood Technics Ib. Restricted to students admitted to the following program(s): 31-410-2 Wood Technics.

### 410-315 Bldg Codes & Mechanical Sys 2 cr

This course will have an emphasis on the Wisconsin building codes and mechanical systems. A practical application of the codes as well as the fundamentals of residential HVAC systems, fireplaces, plumbing, and electrical will be covered in the course. The students will gain a better understanding of the complete building process and proper home function and design. Co-requisite(s): 410-305 Wood Technics Ia and 410-306 Wood Technics Ib.

### 410-390 Exploratory Construction 1 cr

This course is designed for high school students, preferably Juniors and Seniors as well as other individuals interested in the construction trade. The different career paths available in the industry will be explored and industry leaders will come in and discuss the future of the industry with the students. Basic construction skills including safety, floor framing, wall framing, and exterior finish carpentry will be explored during the course. "Green" building methods and benefits will be explored during the course. The students will tour a new "Energy Star" and "Green Built" home during the course. At the conclusion of the course the students should have a greater knowledge of what the construction industry has to offer as a future career.

## 412-Combustion Engines

### 412-305 Truck Chassis I 5 cr

This course will introduce the student to the diesel/heavy duty truck repair business. Vehicle safety, driving practices, truck servicing, and wheel end repair, along with hydraulic brakes, air brakes, and air brake systems will be the subject material. A tool kit is required by each student in this course. Co-requisite(s): 412-306 Truck Chassis II. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician.

### 412-306 Truck Chassis II 5 cr

This course will study front-end geometry, alignment, steering, and suspensions as it pertains to light- and heavy-duty trucks. Also studied

will be clutches, drivelines, coupling, and 5th wheel operation. A tool kit is required by each student in this course. Co-requisite(s): 412-305 Truck Chassis I.

### 412-307 Chassis Electrical 5 cr

This course will study all aspects of electrical systems found on heavy-duty trucks. Battery testing, lighting, starting, charging, in-dash controls, schematic interpretation, and troubleshooting techniques using a digital multi-meter will be practiced. A tool kit is required by each student in this course. Prerequisite(s): 412-306 Truck Chassis II. Co-requisite(s): 412-308 Mechanical Gear Trains and 412-309 HVAC and Refrigeratio.

### 412-308 Mechanical Gear Trains 4 cr

This course introduces the student to rear axle, power divider, and manual transmission concepts. The student will study gear ratios, gear types, gear train configurations, failure analysis, standard servicing requirements, and practice the rebuilding techniques for each major brand. A tool kit is required by each student in this course. Prerequisite(s): 412-306 Truck Chassis II. Co-requisite(s): 412-307 Chassis Electrical and 412-309 HVAC and Refrigeratio.

### 412-309 HVAC and Refrigeration 3 cr

This course is designed to familiarize the student with basic air conditioning/heating concepts and diagnostic procedures as used with heavy-duty trucks and other heavy equipment. The course will focus on A/C concepts, federal and state requirements, component operation, controls, and service procedures such as recovery, evacuation, and charging. Transport refrigeration diagnostic concepts and service procedures as used on refrigerated trailers will also be studied. A tool kit is required by each student in this course. Prerequisite(s): 412-306 Truck Chassis II. Co-requisite(s): 412-307 Chassis Electrical and 412-308 Mechanical Gear Trains. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician.

### 412-310 Diesel Engine Oper & Tune-up 4 cr

This course will introduce the student to the mechanical diesel engine. The student will study engine operating fundamentals, basic theory of combustion, mechanical controls, and fuel injection systems. Emphasis will be on engine tune-up and testing with proper diagnostic procedures. A tool kit is required by each student in this course. Prerequisite(s): 412-309 HVAC and Refrigeration. Co-requisite(s): 412-311 Applied Mobile Hydraulics and 412-312 Intro to Electronic Control.

### 412-311 Applied Mobile Hydraulics 2 cr

This course will provide the application of basic hydraulic principles into typical mobile hydraulic circuits. The student will experience activities with basic hydraulic components including, disassembly and assembly of valves, pump, and cylinder. Servicing and preventive maintenance will be performed on trucks and other equipment. A tool kit is required by each student in this course. Prerequisite(s): 412-309 HVAC and Refrigeration. Co-requisite(s): 412-310 Diesel Engine Oper & Tune-up and 412-312 Intro to Electronic Control.

### 412-312 Intro to Electronic Control 4 cr

This course will introduce the student to the basic electronic control systems that are integrated into the modern heavy -duty truck. The student will study electronic engine systems and electronic transmission systems. Schematic interpretation, troubleshooting techniques using a

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digital multi-meter, service manual and scan tools will be practiced. A tool kit is required by each student in this course. Prerequisite(s): 412-309 HVAC and Refrigeration. Co-requisite(s): 412-310 Diesel Engine Oper & Tune-up and 412-311 Applied Mobile Hydraulics.

**412-313 Diesel Engine Overhaul** **5 cr**  
This course will study heavy-duty diesel engine rebuild. Diagnostic and disassembly procedures, evaluation of worn parts, component rebuilding, reassembly and testing procedures including power concepts and dynamometer run-in. Operation and troubleshooting of cooling and lubrication systems. A tool kit is required by each student in this course. Prerequisite(s): 412-312 Intro to Electronic Control. Co-requisite(s): 412-314 Electronic Diagnostics and 412-315 Preventive Maintenance.

**412-314 Electronic Diagnostics** **4 cr**  
This course will advance the student's ability in electronic diagnostics with the use of electronic software for engine and transmission troubleshooting. The student will be using skills learned in the program to diagnose active and inactive codes, system reprogramming, and intermittent codes. A tool kit is required by each student in this course. Prerequisite(s): 412-312 Intro to Electronic Control. Co-requisite(s): 412-313 Diesel Engine Overhaul and 412-315 Preventive Maintenance.

**412-315 Preventive Maintenance** **1 cr**  
This course will offer the student a change to show the instructor his or her ability to perform general and/or major preventive maintenance/repair on a heavy-duty truck. Task may include any area that was covered in the program. A tool kit is required by each student in this course. Prerequisite(s): 412-312 Intro to Electronic Control. Co-requisite(s): 412-313 Diesel Engine Overhaul and 412-314 Electronic Diagnostics.

**412-320 Diesel Equipment Service Mgmt** **2 cr**  
This course provides the student with practical aspects of managing a fleet or repair business. Special concentration is placed on current OEM software, preventive maintenance, DOT annual inspections, OSHA, DNR/EPA laws and regulations. Course work will be presentations, written reports, and computer lab work.

**412-345 Basic DC Electricity** **2 cr**  
This course introduces the student to DC electrical and electronic circuitry as it applies to heavy-duty trucks. The course will focus on characteristics of electricity, series circuits, parallel circuits, soldering, Ohm's Law, meter usage/application, and relay operation. These skills will be practiced on training boards in a controlled lab setting. A digital volt/Ohm meter is required by each student in this course. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician.

**412-380 Diesel Internship** **2 cr**  
This course is designed to provide the student with a purposeful occupational experience in the medium/heavy truck field. Each internship is an individualized experience. A training plan is created for each student in conjunction with the training site and CVTC Diesel Technician Program to provide experience related to the skills and knowledge acquired in the program. Student must be in 4th semester status. Prerequisite(s): 412-312 Intro to Electronic Control.

## 413-Electricity

**413-303 Electricity of EPD 1** **4 cr**  
This course introduces the student to basic electrical theory using Ohm's Law to analyze series, parallel and combination circuits. Concepts of work, power, energy, and magnetism will be studied. Students will learn basic line construction materials such as insulator design, pole information, and wire size and resistance, with hands on practice on communication signals for lineworkers. Throughout the course there is an emphasis on safety for lineworkers. Co-requisite(s): 413-304 Electricity of EPD 2 and 413-305 Basic Line Construction Lab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

**413-304 Electricity of EPD 2** **4 cr**  
This course introduces the student to basic A.C. circuits and advances to A.C. circuits with induction and capacitance. The course includes A.C. parallel circuits with resistance, inductive reactance and capacitive reactance. The student will learn guying and anchoring concepts. CPR and Medic First Aid certification will also be included. Throughout the course there is an emphasis on safety for lineworkers. Co-requisite(s): 413-303 Electricity of EPD 1 and 413-305 Basic Line Construction Lab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

**413-305 Basic Line Construction Lab** **5 cr**  
This course introduces the student to power line construction techniques including staking/overhead line design, overhead structure specifications, overhead distribution line construction and stringing/sagging overhead line conductors. The course includes basic hydraulics and line truck operation. Ropes, knots, and splices associated with the lineworker trade will be learned and used throughout the course. Electrical connectors will also be covered. Students will learn aerial climbing tools and techniques. Students will use electrical test equipment and hand and power tools associated with the lineworker trade. Throughout the course there is an emphasis on safety for lineworkers. Co-requisite(s): 413-303 Electricity of EPD 1 and 413-304 Electricity of EPD 2. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

**413-306 EPD Power & Transformers** **4 cr**  
This course introduces the theory of three-phase electrical power systems, including wye and delta systems. Students will study single- and three-phase transformer; construction, principles of operation, connections as well as secondary power supply systems. Skills in electrical system grounding principles and over voltage equipment will be developed. Safety topics related to electrical line work will be highlighted. Prerequisite(s): 413-303 Electricity of EPD 1 and 413-304 Electricity of EPD 2 and 413-305 Basic Line Construction Lab. Co-requisite(s): 413-307 Electric Line Apparatus and 413-308 Advanced Line Construction Lab.

**413-307 Electric Line Apparatus** **4 cr**  
Introduction to electrical power line apparatus such as; over current equipment, voltage regulators and kilowatt hour meters. Components and functions of an electrical substation, underground distribution systems, street lighting equipment, along with the sources of communication interference from electrical sources. Safety related topics are included.

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Prerequisite(s): 413-303 Electricity of EPD 1 and 413-304 Electricity of EPD 2 and 413-305 Basic Line Construction Lab. Co-requisite(s): 413-306 EPD Power & Transformers and 413-308 Advanced Line Construction Lab.

## **413-308 Advanced Line Construction Lab 4 cr**

This is a lab class for second semester Electrical Power Distribution. Students will learn and use advanced levels of topics such as; aerial climbing, rope knots and slices, electrical connectors, electrical test equipment, as well as hand tools. Application and installation of various electrical apparatus in a lab environment is completed by the students. Overhead transmission structures are constructed, protective grounding is introduced, and live line work such as; rubber gloving and hot stick use is practiced (de-energized lines). Underground related equipment is introduced including cable terminating tools and cable locating equipment. Students will install UD cable and terminate cable. Students will also operate a modern combination trencher-cable plow. Safety for the various lab activities is stressed. Prerequisite(s): 413-303 Electricity of EPD 1 and 413-304 Electricity of EPD 2 and 413-305 Basic Line Construction Lab. Co-requisite(s): 413-306 EPD Power & Transformers and 413-307 Electric Line Apparatus.

## **419-Indust Hydraulics-Pneumatics**

### **419-102 Hydraulic System Operations 2 c**

This course provides the application of basic hydraulic principles into

typical industrial circuits. The students will experience exercises with basic hydraulic components and simple oil systems and how they are applied in circuits. This course is designed to help develop skills in understanding hydraulic components and their interaction to each other in demonstration circuits. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

### **419-116 Basic Hydraulics 3 cr**

This course exposes the student to the theories and basic components of hydraulics. Basic component construction and operation is explored. The theory of function is supplemented by hands on disassembly and assembly of actual industrial components. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

### **419-117 Basic Pneumatics 3 cr**

This course exposes the student to the theories and basic components of pneumatics. Basic component construction and operation is explored. The theory of function is supplemented by hands on disassembly and assembly of actual industrial components. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

### **419-118 Pneumatic System Operations 2 cr**

This course provides the application of basic pneumatic principles into

typical industrial circuits. The student will experience exercises with basic pneumatic components and simple air systems and how they are applied in circuits. This course is designed to help develop skills in understanding pneumatic components and their interaction to each other in demonstration circuits. Vacuum components and air logic systems will be included. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-117 Basic Pneumatics.

### **419-301 Related Fluid Power 1 cr**

Hydraulic and pneumatic industrial fluid power; theory and laboratory activities including disassembly and assembly of valves, pumps, cylinders; testing, servicing, preventive maintenance. Co-requisite(s): 412-311 Applied Mobile Hydraulics.

### **419-318 Hydraulic System Operations 2 cr**

This course provides the application of basic hydraulic principles into typical industrial circuits. The student will experience exercises with basic hydraulic components and simple oil systems and how they are applied in circuits. This course is designed to help develop skills in understanding hydraulic components and their interaction to each other in demonstration circuits. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics.

### **419-319 Pneumatic System Operations 2 cr**

This course provides the application of basic pneumatic principles into typical industrial circuits. The student will experience exercises with basic pneumatic components and simple air systems and how they are applied in circuits. This course is designed to help develop skills in understanding pneumatic components and their interaction to each other in demonstration circuits. Vacuum components and air logic systems will be included. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-117 Basic Pneumatics.

## **420-Machine Shop**

### **420-125 Related Machine Tool Concepts 2 cr**

Skill development in use of lathe, drill press, and other machine shop equipment; safety and proper shop procedures emphasized. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

### **420-150 Machining/CAM 3 cr**

This course is designed to give the student an overview of the machining processes to include milling, drilling, turning, and grinding. It will involve working with manuals as well as computerized (CNC) machine tools. The student will also be introduced to CAM software where they will define the part geometry, develop tool paths, and download to the CNC machine to create a part. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

### **420-190 Machine Tool Processes 3 cr**

Basic machine methods and operations, basics of bench work, drill press and bandsaw operation, operation of the engine lathe, milling

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techniques, and surface grinders, principles of numerical control and part programming. Must be in 3rd semester status. Prerequisite(s): 620-156 Industrial Electronics II.

## **420-199 Machine Tool Ind Study 1 cr**

This course is designed to offer the student customized instruction which may include CNC, CAD/CAM, and manual machining skills and operations.

## **420-300 Machine Shop Theory 1 cr**

Broad theoretical background in machine shop practices which includes milling, turning, grinding, and drilling. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-301 Machining Processes, Intro to 4 c**

This course is intended to develop the fundamental skills for a career in the machining trade. Fundamental processes include bench work, layout, basic set-up, measurement, turning, surface grinding, and tool geometry/sharpening. The format for this class is a self-paced lab with a minimum allowable standard established. This course requires the purchase of tools and measuring equipment required for working in the Machine Tool lab. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics, 32-439-1 Tool & Die Making.

## **420-302 Machining Processes, Inter 5 cr**

This course expands on the fundamental skills of the machine shop by broadening the student's knowledge base with bench work, layout, set-up, measurement, turning, drilling, grinding, tool geometry/sharpening, and an introduction to milling. The format for this class is a self-paced lab with a minimum allowable standard established. Prerequisite(s): 420-301 Machining Processes, Intro to (or taken concurrently).

## **420-321 Manual Turning Processes 5 cr**

This course is intended to develop the fundamental skill for a career in the machining trade. Fundamental processes include; Manual Lathe operation, basic set-up, lay-out, measurement, turning processes, and tool geometry/sharpening. The format for this class is a self-paced lab with a minimum allowable standard established. This course requires the purchase of tools and measuring equipment required for working in the Machine Tool lab. Co-requisite(s): 420-322 Manual Milling Processes. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-322 Manual Milling Processes 5 cr**

This course expands on the fundamental skills of the machine shop by broadening the student's knowledge base with; Manual mill operation, basic set-up, layout, measurement, drilling and milling processes along with using a variety of milling cutters. Co-requisite(s): 420-321 Manual Turning Processes. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-325 Basic CNC Mill Programming 5 cr**

This course is designed to prepare the student for entry-level skills in programming, setup, and operation of CNC milling machines. Repetitive operational tasks will be performed so students acquire knowledge and skill in setting-up and operating CNC milling machines. Students will develop and apply skills in setting and testing work and tool offsets, performing manual data input functions, loading programs, and the

running of proven CNC programs. Programming examples will be covered using canned cycles, linear and circular interpolation, cutter compensation, subroutines, and multiple fixture offsets, etc. Projects will be assigned and completed using Haas Mini and VF series vertical mills. Prerequisite(s): 420-321 Manual Turning Processes and 420-322 Manual Milling Processes. Co-requisite(s): 420-326 Adv CNC Mill & Grinding Proc. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-325A Basic CNC Mill Programming 5 cr**

This course is designed to prepare the student for entry-level skills in programming, setup, and operation of CNC milling machines. Repetitive operational tasks will be performed so students acquire knowledge and skill in setting-up and operating CNC milling machines. Students will develop and apply skills in setting and testing work and tool offsets, performing manual data input functions, loading programs, and the running of proven CNC programs. Programming examples will be covered using canned cycles, linear and circular interpolation, cutter compensation, subroutines, and multiple fixture offsets, etc. Projects will be assigned and completed using Haas Mini and VF series vertical mills. Restricted to students admitted to the following program(s): TC-420-2 CNC Machining Retraining.

## **420-326 Adv CNC Mill & Grinding Proc 5 cr**

This course is designed to expand on a student's foundational skills in programming, setup, and operation of CNC milling machines and surface grinders. Students will develop and apply setup and programming skills using machining centers. Students will also utilize the grinding process to perform secondary operations on in-process parts. Projects will be assigned and completed using Haas machining centers. Prerequisite(s): 420-321 Manual Turning Processes and 420-322 Manual Milling Processes. Co-requisite(s): 420-325 Basic CNC Mill Programming.

## **420-330 Basic CNC Lathe Programming 5 cr**

This course is designed to prepare the learner for entry-level skills in operation, setup, and manual programming of CNC lathes. Repetitive operational tasks will be performed by students to acquire knowledge and skills in operation and setup of CNC lathes. Programming examples will be covered using canned cycles, linear, and tool nose radius compensations. Projects will be assigned and completed using Haas CNC Turning Centers. Prerequisite(s): 420-321 Manual Turning Processes and 420-322 Manual Milling Processes. Co-requisite(s): 420-331 Advanced CNC Turning Processes.

## **420-331 Advanced CNC Turning Processes 5 cr**

This course is designed to expand your foundational skills in programming, setup, and operation of CNC turning centers. You will develop and apply setup and programming skills using CNC turning centers with live tooling capabilities. Programming examples will be covered using advanced programming techniques. Projects will be assigned and completed using Haas CNC Turning Centers. Prerequisite(s): 420-321 Manual Turning Processes and 420-322 Manual Milling Processes. Co-requisite(s): 420-330 Basic CNC Lathe Programming. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-341 Materials for Machinists 2 cr**

During this course individuals will learn the terminology relating to

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the mechanical, physical, and chemical properties of materials used for Machine Tooling Technics. Materials covered will be the classification of steel, cast iron, aluminum, copper, and polymers. Lab activities will include hardening, annealing, case hardening, destructive test, non-destructive test, casting, molding, welding, and gluing of materials. Prerequisite(s): 420-321 Manual Turning Processes and 420-322 Manual Milling Processes.

## **420-346 Related Machine Tool Concepts 2 cr**

Skill development in use of lathe, drill press, and other machine shop equipment; safety and proper shop procedures emphasized.

## **420-347 Related Machine Tool 2 cr**

Use of lathe, drill press and other machine shop equipment; sharpening drills; removing studs; using machine hand tools; safety; proper shop procedures.

## **420-351 Advanced CAD/CAM 3 cr**

This course will provide the student with a basic knowledge of a Windows based CAD and CAM software (Solid Works and Master Cam). The purpose of this course is to utilize the software to create solid models, import and export files, create tool paths utilizing the feature based machining technologies and explore processing strategies. This course is designed to prepare the student to work with advanced technologies in the integration of Solid Works and Master Cam software. Prerequisite(s): 420-367 3-D CAM. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-352 Advanced Technologies in Mfg 5 cr**

In this course the student will learn theories and concepts that will include Work Piece Processing, High Performance Machining, Electrical Discharge Machining (EDM), Fixture Creation, Advanced Measurement Techniques, Advanced Tooling Setup Techniques, and Program Optimization. Prerequisite(s): 420-326 Adv CNC Mill & Grinding Proc and 420-331 Advanced CNC Turning Processes and 420-353 CAM for CNC Lathe and 420-367 3-D CAM. Co-requisite(s): 420-355 Competitive Machining Techniqs.

## **420-353 CAM for CNC Lathe 2 cr**

In this course students will acquire knowledge and skills in MasterCam Lathe concepts. Students will develop and apply skills in creating part geometry, generate tool paths using facing, rough, finish, groove, thread, drilling, cut-off, and lathe live tooling. Students will complete examples presented and be assigned similar projects to reinforce the material presented. Prerequisite(s): 420-380 2-D CAM. Co-requisite(s): 420-330 Basic CNC Lathe Programming.

## **420-355 Competitive Machining Techniqs 5 cr**

The focus of this course is productivity-based, using the machine tools available in the machine shop lab. The application projects will focus on applying advanced machining techniques to practice. The theories that will be applied in this course will include High Speed Machining (HSM), Hard Milling, Live Tooling on the Lathe, Electrical Discharge Machining(EDM), Fixture Creation, and Program Optimization. Another component of this course is time utilization. Time utilization is very important to you and your future employer which means that all projects will be time sensitive to reinforce productivity. Prerequisite(s): 420-326 Adv CNC Mill & Grinding Proc and 420-331 Advanced CNC Turning

Processes. Co-requisite(s): 420-352 Advanced Technologies in Mfg. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-367 3-D CAM 3 cr**

Basic operation of computer-aided drafting and its links to the computer-aided machining processes used in modern manufacturing; class approach combines design and manufacture of a product. Enrollment by instructor consent. Prerequisite(s): 420-380 2-D CAM.

## **420-373 Precision Measurement 1 cr**

This course will provide the theory, technique, and care of the coordinate measuring machine (CMM) and various measuring instruments. The student will apply blueprint reading skills and geometric tolerancing to projects made in the machine shop while applying measuring techniques used with the CMM and basic measuring instruments. The student will be exposed to precision inspection methods as it relates to industrial blueprints, manufactured parts, and the student's projects. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-379 Job Skills for Manufacturing 1 cr**

Develop skills in preparation of manufacturing trades job search to include; a resume, employment application form, letter of job inquiry, and thank you letter following an employment interview. The learner will develop a job portfolio for the manufacturing trades to include documents and pictures of educational and work experience. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

## **420-380 2-D CAM 2 cr**

2-D CAM is a two-credit course that is offered by the Machine Tool Department at Chippewa Valley Technical College. This course will provide the student with a basic knowledge of a Windows environment computer workstation and CAD-CAM software. The purpose of this course is to develop the skills of print interpretation, geometry generation, dimensioning, and both virtual and conventional machining of part geometry to print specifications. 2-D CAM is a one-semester (64-hour) course and is intended for entry-level machine tool programmers. This is a laboratory-based course that consists of hands-on activities. Enrollment by instructor consent. Prerequisite(s): 420-325 Basic CNC Mill Programming (or taken concurrently) or 420-325A Basic CNC Mill Programming (or taken concurrently).

## **420-381 CAD/CAM for Swiss 3 cr**

Students will use Esprit CAD/CAM software to aid in the design and manufacturing of parts on the CNC Swiss turning machine. Programs will consist of basic turning, mill/turn, and pick off with multiple spindles. Parts will be machined both on the Swiss machine and virtually with the simulation component of the software. Prerequisite(s): 420-382 Swiss I and 420-383 Swiss II. Restricted to students admitted to the following program(s): TC-420-1 Advanced Machining - Swiss.

## **420-382 Swiss I 3 cr**

This course will introduce the student to the Swiss screw machine concept and operations fundamentals. Emphasis will be placed on the skill development for basic Swiss processes and operation of the Citizen Swiss screw machine. The course will include performance

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competencies for machine setup, load proven part programs, setting tools, adjusting offsets, and the set up of an automatic bar feeder for automated manufacturing. Prerequisite(s): 420-326 Adv CNC Mill & Grinding Proc and 420-331 Advanced CNC Turning Processes and 420-367 3-D CAM. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics, TC-420-1 Advanced Machining - Swiss.

**420-399 Independent Study-Machine Tool** 3 cr  
Students will work under the directions of the designated instructor. Projects will be based on the application of previously learned concepts and new concepts. Students will be able to have a hands-on approach.

## 421-Mechanical Drafting

**421-302 Manufacturing Processes** 2 cr  
This course is designed to explore the manufacturing process as applied to mechanical part designs. Instruction includes the properties and processing characteristics of metals, plastics, elastomers, woods, ceramics, and composites. Manufacturing processes include mechanical tool cutting, machining, electrochemical milling, photochemical etching, laser machining, casting, fabricating, joining, heat treating, and secondary finishing operations. Modern manufacturing technologies such as automation, robotics, and computer integrated technologies are also included with case studies of industry.

**421-303 CAD I** 3 cr  
Introduction to computer-aided drafting and design (CAD) software (AutoCAD) to create two-dimensional drawings. Introduces CAD navigational commands to create entities, edit, store, and print CAD drawings. Topics include entity creation of arcs, circles, lines, coordinates, editing functions, scaling, making templates, text detailing, layers and linetypes, viewports, modelspace layout and paperspace practices, dimensioning styles, calculation strategies, blocks, groups, libraries, attributes, bills of materials, and plotting to scale. The student will apply CAD skills to a detailed mechanical design drawing. All assignments are documented within an AutoCAD portfolio.

**421-304 CAD II** 2 cr  
This course is designed to teach computer-aided drafting principles and standard practices. AutoCAD software is used for technical drawing applications. Topics include coordinate features, various editing functions, file maintenance, database management, prototype drawing, mechanical part design dimensioning practices, the use of blocks, using library symbols, two-dimensional CAD design details, and printing or plotting. Detailed drawings will follow general dimensioning practices found in ASME Y14.5-2009.

**421-305 CAD III** 3 cr  
This course is designed to explore and create 3-D models of mechanical parts using AutoCAD or SolidWorks surfacing and solid modeling commands. This course uses project-based instruction focusing on assembly drawings and design documentation. Prerequisite(s): (421-303 CAD I and 421-304 CAD II (or taken concurrently).

**421-315 Geometric Tolerancing** 2 cr  
This course is designed to provide the concepts of Geometric

dimensioning and tolerancing (GD&T) as applied to mechanical parts. Welding fabrication, and mechanical assemblies, GD&T symbols of form, orientation, profile, location, and runout will be used in application based on ASME Y14.5-2009 standards. GD&T universal symbols and terms will be applied: position tolerancing, datum reference frame theory, datum (size) modifiers, datum targets, metrology and functional gage design application using a coordinate measuring open setup.

**421-321 Basic Solid Modeling** 3 cr  
This course introduces the basic concepts and commands required to develop 3-D solid models using SolidWorks software. Students will learn to constrain models and develop parametric models. Students will also produce 2-D working drawings from the models. Topics will include dimensioning, orthographic views, and section views.

**421-385 Machine Trades Blueprint Rdg** 2 cr  
Introduction of engineering language used on blueprints; interpretation of blueprints; blueprints and understanding manufacturing processes and communication between product design and machinist-manufacturer. Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

**421-386 Welding-Blueprint Reading** 2 cr  
Drawing fundamentals related to two and three view drawings; visual projection methods; freehand sketching; weld symbols and how to apply them.

## 442-Welding

**442-120 Related Welding-Indust Mech** 2 cr  
The purpose of this course is to help the students acquire the basic welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), and Gas Metal Arc Welding (GMAW). It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

**442-199 Welding Independent Study** 1 cr  
This course is for skill refinement in pipe and TIG welding.

**442-301 Welding Metallurgy** 2 cr  
The purpose of this course is to help students acquire basic metallurgy knowledge that will be useful in their welding careers. The students will study the types and uses of steel; modification and prediction of metal behavior; crystalline structure before and after modification; lab work focuses on using the knowledge gained. Prerequisite(s): 442-361 Basic Arc Welding and 442-351 Weld Theory & Cutting Process and 442-362 Basic Wire-Feed Welding (or taken concurrently). Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication, 31-442-1 Welding.

**442-313 Welding-Automotive Technician** 1 cr  
The purpose of this course is to help the students acquire basic welding skills on light gauge metals and other materials used in the automobile industry by using oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and plastic

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welding. It is a hands-on, self-paced learning environment to learn basic welding skills and safe welding practices. Restricted to students admitted to the following program(s): 32-404-2 Automotive Technician, 31-404-3 Automotive Maint Tech.

## **442-314 Related Welding 2 cr**

The basis of oxyacetylene, arc and wirefeed welding are covered. Laboratory work is performed to develop basic skills and learn safe welding work habits.

## **442-314A Related Welding, Marine 2 cr**

The purpose of this course is to help the students acquire the basic welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and Plastic Welding. It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. Restricted to students admitted to the following program(s): 31-461-2 Motorcycle, Marine & Outdoor P.

## **442-314B Related Welding for Diesel 2 c**

The purpose of this course is to help the students acquire the basic welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), and Gas Metal Arc Welding (GMAW). It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician.

## **442-314C Related Weld, Industrial Mech 2 cr**

The purpose of this course is to help the students acquire the basic welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), and Gas Metal Arc Welding (GMAW). It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

## **442-315 Welding for Autobody 2 cr**

High strength steel is used in unibody construction; vehicle manufacturers mandate MIG welding be used on repair of all structural parts. Substantial time is devoted to light gauge metals welded with small diameter wire using a MIG welder.

## **442-315A Welding for Auto Collision 2 cr**

The purpose of this course is to help the students acquire basic welding skills on light gauge metals and other materials used in the automobile industry by using oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and plastic welding. It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. May get into course with instructor approval if you are not a program or pre-program student. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Repair.

## **442-315B Welding for Auto Maint Tech 2 cr**

The purpose of this course is to help the students acquire basic welding skills on light gauge metals and other materials used in the automobile industry by using oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and plastic welding. It is a hands-on self-paced learning environment to learn basic welding

skills and safe welding practices. Restricted to students admitted to the following program(s): 31-404-3 Automotive Maintenance Tech.

## **442-320A Related Welding Diesel, Adv 2 cr**

The purpose of this course is to help the students acquire advanced welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and Gas Tungsten Arc Welding (GTAW). It is a hands-on self-paced learning environment to learn advanced welding skills and safe welding practices. Prerequisite(s): 442-314B Related Welding for Diesel. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician.

## **442-320B Related Welding, Ind Mech Adv 2 cr**

The purpose of this course is to help the students acquire advanced skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), Gas Tungsten Arc Welding (GTAW), and plastic welding utilized in the Industrial Mechanics area. It is a hands-on self-paced learning environment to acquire advanced welding skills and safe welding practices. Prerequisite(s): 442-314C Related Weld, Industrial Mech. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

## **442-330 Arc & Oxy-Acetylene Welding I 1 cr**

Students will learn fundamentals of welding; welding safety, welding terms, equipment, five basics of good welds, weld types, weld positions, weld quality, electrode and material identification. Students will acquire basic fundamental skills in oxy-acetylene (OAW) welding, cutting and arc (SWAW, stick) welding. Safety glasses are required.

## **442-331 Wire Feed & TIG Welding I 1 cr**

Students will learn fundamentals of welding: welding safety, welding terms, equipment, five basics to good welds, weld types, weld positions, weld quality, electrode and material identification. Students will acquire basic fundamental skills in wire feed welding (GMAW, MIG) and gas tungsten arc welding (GTAW, TIG, heli-arc). Safety glasses are required.

## **442-350 Pipe Welding 4 cr**

Basic pipe welding skills; several types of welds are made in different positions using stick electrodes, wire feed (MIG) and (TIG) welding of stainless steel pipe. (8 weeks). Prerequisite(s): 442-364 Gas Tungsten Arc Welding. Co-requisite(s): 457-360 Advanced Processes and 457-361 Advanced Fabrication I and 625-160 Core Manufacturing Skills. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

## **442-351 Weld Theory & Cutting Process 2 cr**

This course introduces the student to a variety of technical topics to the Welding program. Topics will include: welding theory, machine settings, wire and electrode designations and selection, Welding Procedure Specification (WPS) interpretation, maintenance of welding equipment, etc. Discussion will also take place on issues such as work ethics and job/work attitudes, as well as welder certifications, AWS and ASME code requirements, and work standards. Hands-on experience in oxy-acetylene and plasma-cutting processes. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication, 31-442-1 Welding.

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**442-360 Robotic Welding** 2 cr  
Safety; setup; programming; and operation of a welding robot. Variables and problems will be studied and solutions applied to provide a practical, efficient application of the GMAW (gas metal arc welding) process to an automated system. Prerequisite(s): 442-363 Adv Wire-Feed Welding (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-360B Robotic Welding B** 1 cr  
Safety; setup; programming; and operation of a welding robot. Variables and problems will be studied and solutions applied to provide a practical, efficient application of the GMAW (gas metal arc welding) process to an automated system. This is the second half of a 2-credit course, and both parts must be taken in order to complete the Robotic Welding requirement for the Welding program. Prerequisite(s): (442-360A Robotic Welding A or 442-360 Robotic Welding (or taken concurrently) and 442-363 Adv Wire-Feed Welding (or taken concurrently) and 442-364 Gas Tungsten Arc Welding (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding.

**442-361 Basic Arc Welding** 4 cr  
This course includes basic welding; design and selection of welding processes. The laboratory experience enables the development of skills in basic Shielded Metal Arc Welding (SMAW, arc welding, stick welding); metal cutting procedures. This class requires the purchase of approximately \$540 in tools and equipment. Prerequisite(s): 421-386 Welding-Blueprint Reading (or taken concurrently) and 442-351 Weld Theory & Cutting Process (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-362 Basic Wire-Feed Welding** 4 cr  
Introduction to Gas Metal Arc Welding (GMAW, wire-feed welding, MIG). Develop skills with solid wire GMAW short-circuit transfer in various positions and joint designs. Prerequisite(s): 421-386 Welding-Blueprint Reading (or taken concurrently) and 442-361 Basic Arc Welding (or taken concurrently) and 442-351 Weld Theory & Cutting Process (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-363 Adv Wire-Feed Welding** 4 cr  
Continuation of Basic Wire-Feed Welding. Gas Metal Arc Welding (GMAW, wire-feed welding, MIG) using spray transfer, pulse GMAW, flux-cored wire, aluminum, and stainless steel wire on various metals and joint designs. Destructive and nondestructive testing methods; welding codes and certification. Prerequisite(s): 442-362 Basic Wire-Feed Welding. Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-364 Gas Tungsten Arc Welding** 4 cr  
Gas Tungsten Arc Welding (GTAW, TIG), of aluminum, stainless steels and carbon steels. Weld exercises performed on all three types of material in various positions and joint designs. Purge welding of stainless steel pipe both in the fixed position and rolled flat position. Prerequisite(s): 442-361 Basic Arc Welding (or taken concurrently) and 442-362 Basic Wire-Feed Welding (or taken concurrently). Restricted to

students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-365 Welding Rigging/Forklift Trng** 2 cr  
This course is for welding program students to gain knowledge and hands-on experience in several industrial topics of the welding field. The use of jib cranes and the rigging involved for lifting or moving materials and working safely around different types of cranes both in a shop environment and in the field. Forklift training and safety issues for operating a forklift on the job site. The students will discuss OSHA safety requirements for the welding industry and participate in fire extinguisher training. Discussion of lean manufacturing processes and issues utilized in today's manufacturing industry. Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-366 Advanced Arc Welding** 4 cr  
Continuation of basic Shielded Metal Arc Welding (SMAW, arc welding, stick welding). Refine and develop new skills in Shielded Metal Arc Welding (SMAW, arc welding, stick welding) in out-of-position plate welding using fast freeze, low hydrogen, and iron power electrodes. Weld certification in 3G and 4G structural steel using E7018 electrodes. Prerequisite(s): 442-363 Adv Wire-Feed Welding (or taken concurrently) and 442-361 Basic Arc Welding (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding, 32-457-1 Welding Fabrication.

**442-373 Welding Applications** 4 cr  
This course incorporates welding applications for exotic materials and welding skill refinement. Students will need to identify materials to be welded, choose the proper welding process, develop a welding procedure (WPS) according to a welding code, and successfully join the materials identified for a given application. Prerequisite(s): 442-350 Pipe Welding (or taken concurrently) and 457-372 NDT and Welding Codes (or taken concurrently). Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

**442-380 Industrial Skills Welders** 2 cr  
In this course the student will develop math skills and job seeking skills of the welding career to meet the demand of today's industry. Application based math topics will address fractions, decimals, fraction conversion to decimals and metric equivalents, geometry and trig formulas as well as algebraic problem solving. The student will use blueprints for layout calculations and techs. The student will also develop job seeking skills such as: employment search, resumes, application forms, and employer interviews. Restricted to students admitted to the following program(s): 31-442-1 Welding, 31-442-1 Welding - Full-time PM, 31-442-1 Welding - Part-Time PM.

**442-390 CWI Test Prep Training** 2 cr  
Training is designed to prepare employees to take the AWS Certified Welding Inspector (CWI) test. Training will consist of three specific areas: general welding fundamentals, weld inspection, and AWS D1.5 Bridge Welding Code.

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## 457-Metal Fabrication

### 457-360 Advanced Processes 2 cr

This course will provide the student with an understanding and practical applications of the advanced manufacturing processes used in the welding industry. Applications of CNC plasma tables, water jet cutting systems, laser welding and cutting, friction welding applications, and more will be explored and utilized. Co-requisite(s): 442-350 Pipe Welding and 457-361 Advanced Fabrication I and 625-160 Core Manufacturing Skills. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

### 457-361 Advanced Fabrication I 2 cr

Advanced metal fabrication developing assembly and sub-assemblies from working prints using various fabrication processes, such as; rigging and lifting, distortion control, fabrication tables, and CNC equipment programming will be incorporated. Prerequisite(s): 442-365 Welding Rigging/Forklift Trng. Co-requisite(s): 442-350 Pipe Welding and 457-360 Advanced Processes and 625-160 Core Manufacturing Skills. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

### 457-370 Advanced Fabrication 2 3 cr

Continuation of Advanced Fabrication 1 incorporating the Basic CAD design project developed by the students. The fabrication of the CAD project will be done in a team production situation using the advanced processes available. Prerequisite(s): 457-361 Advanced Fabrication I and 606-161 CAD, Basic. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

### 457-371 Advanced Robotic Welding 2 cr

This course covers safety, setup, programming, and operation of a welding robot. Variables and problems will be studied and solutions applied to provide a practical, efficient application of the GMAW (gas metal arc welding) process and fixturing to an automated system. There will be the use of coordinated motion and offline programming. Prerequisite(s): 457-360 Advanced Processes. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

### 457-372 NDT and Welding Codes 2 cr

Students will learn that Nondestructive Testing (NDT) is a very broad, interdisciplinary field that plays a critical role in assuring that structural components and systems meet specified requirements. NDT allows parts and materials to be inspected and measured without damaging them and provides an excellent balance between quality control and production. Students will apply the inspection and production processes according to the welding codes used in industry. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication.

### 457-380 Layout and Fabrication I/CNC 3 cr

Gain skills in laying out projects from shop sketches or blueprints used in the welding industry; development of templates or patterns and various shop shortcuts. Students will obtain the knowledge of operating different CNC metal fabrication equipment that pertains to the welding industry. Emphasis will be placed on safety, start-up, loading, and efficient operation of the CNC plasma table, CNC shear, CNC break press, and other related equipment to fabricate and assemble projects. Prerequisite(s): 421-386 Welding-Blueprint Reading (or

taken concurrently) and 442-351 Weld Theory & Cutting Process (or taken concurrently). Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication, 31-442-1 Welding.

### 457-381 Layout and Fabrication II 2 cr

This is a continuation of 457-380 Layout and Fabrication I, meant to develop layout and problem-solving skills with more complex projects and design work. Make parts/projects using CNC metal fabrication equipment that pertains to the welding industry, which will then be assembled, welded, and ground off prior to painting. Prerequisite(s): 457-380 Layout and Fabrication I/CNC (or taken concurrently) and 442-363 Adv Wire-Feed Welding (or taken concurrently) and 442-366 Advanced Arc Welding (or taken concurrently). Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication, 31-442-1 Welding.

## 458-Commercial Driving

### 458-320 CDL License Training 1 cr

This course will prepare the student for taking both the written portion and practical Commercial Driver's License (CDL) test. Students will take the written test at the Department of Motor Vehicles (DMV) test center. The CDL driving test can be taken at the DMV test center or CVTC. Restricted to students admitted to the following program(s): 32-412-1 Diesel/Heavy Equip. Technician, 31-413-2 Electrical Power Distribution, 10-531-2 FireMedic, 10-006-3 Agriscience Technician, 10-001-1 Landscape Plant Turf Mgmt.

### 458-340 Truck Driving Refresher 2 cr

This course is designed for students with a current CDL in need of a refresher. This course includes hours of service, the 10-hour federal mandatory training (CSA2010), collision avoidance, and behind the wheel. Student must be 18 years of age and have a current CDL.

### 458-341 Truck Driving 1 4 cr

Covers the laws pertaining to the operation of a commercial motor vehicle (CMV). This course also focuses on how to properly inspect a CMV and how to operate one safely. Each student progresses according to his or her own abilities with the assistance of an instructor. Student must be 18 years of age when class begins. This course is not eligible for financial aid. Co-requisite(s): 458-342 Truck Driving 2 and 458-343 Truck Driving 3 and 458-344 Truck Driving 4. Restricted to students admitted to the following program(s): 30-458-1 Truck Driving.

### 458-342 Truck Driving 2 3 cr

Focuses on understanding the paperwork connected with the trucking industry. This course also covers communication skills and security issues. Student must be 18 years of age when class begins. This course is not eligible for financial aid. Co-requisite(s): 458-341 Truck Driving 1 and 458-343 Truck Driving 3 and 458-344 Truck Driving 4. Restricted to students admitted to the following program(s): 30-458-1 Truck Driving.

### 458-343 Truck Driving 3 3 cr

Further prepares students to obtain a commercial driver's license. Learners have the opportunity to plan trips and manage loading procedures. Weight distribution techniques and security issues are also discussed. Student must be 18 years of age when class begins. This

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course is not eligible for financial aid. Co-requisite(s): 458-341 Truck Driving 1 and 458-342 Truck Driving 2 and 458-344 Truck Driving 4. Restricted to students admitted to the following program(s): 30-458-1 Truck Driving.

**458-344 Truck Driving 4** **2 cr**  
Focuses on continuous improvement. This course is designed for students who have successfully obtained a commercial driver's license. Operating skills and the role of a professional truck driver are stressed. Student must be 18 years of age when class begins. This course is not eligible for financial aid. Co-requisite(s): 458-341 Truck Driving 1 and 458-342 Truck Driving 2 and 458-343 Truck Driving 3. Restricted to students admitted to the following program(s): 30-458-1 Truck Driving.

## 461-Small Engine & Chassis Mechanic

**461-310 Basic Engines/Systems, Intro to** **5 cr**  
This course is a prerequisite for all snowmobile/ATV, marine outboard, and marine inboard courses. It includes safety, precision instruments and engine basics, carburetor and EFI theory, service and testing, electrical and ignition theory, and service procedures. Factory certification is obtained on Briggs and Stratton power equipment. This course requires the purchase of approximately \$1,500 in tools and/or equipment. Prerequisite(s): 461-312 Engine Theory 1 (or taken concurrently). Restricted to students admitted to the following program(s): 31-461-2 Motorcycle, Marine & Outdoor P.

**461-312 Engine Theory 1** **2 cr**  
This course will provide the student with basic knowledge of concepts and principles in the design and operation of small engines. Students will study the material corresponding with the type of engine class they are enrolled in. Prerequisite(s): 461-310 Basic Engines/Systems,Intro to (or taken concurrently).

**461-313 Engine Theory 2** **2 cr**  
This course is a continuation of Engine Theory 1. Students will receive instruction that corresponds with the type of engine class they are currently enrolled in. Prerequisite(s): 461-310 Basic Engines/Systems,Intro to (or taken concurrently) and 461-312 Engine Theory 1 (or taken concurrently).

**461-314 Engine Theory 3** **1 cr**  
This course is a continuation of Engine Theory 1 and Engine Theory 2. Students will receive instruction that corresponds with the last type of engine class required to complete the program. Prerequisite(s): 461-310 Basic Engines/Systems,Intro to (or taken concurrently) and 461-312 Engine Theory 1 (or taken concurrently).

**461-320 Snowmobiles & ATVs** **5 cr**  
This course is designed to give the student the fundamentals of the snowmobile/ATV fuel, electrical, clutch, chassis, engine, and tune-up of a snowmobile/ATV. It covers integral and external fuel pump types, both engine and chassis electrical systems, drive and driven clutch assemblies, front- and rear-suspension types, and track assembly service. Prerequisite(s): 461-312 Engine Theory 1 (or taken concurrently) and 461-310 Basic Engines/Systems, Intro to (or taken concurrently).

**461-330 Marine Outboards** **5 cr**  
This course will give the student a fundamental understanding of marine and outboard fuel, cooling, power trim unit, gear case assemblies, powerhead rebuilding, dyno testing, and ignition systems. The course includes both Mercury and Outboard Marine Corporation fuel, cooling system theory, water pump rebuilding, tank testing, power trim and tilt service and overhaul, gear case rebuilding, shimming and testing of various gear cases, disassembly measuring, and reassembly of various powerheads. Students will evaluate horsepower, throttle response, and troubleshooting by dyno testing, point-coil, battery, CDI ignition theory and identification, operating various test equipment, and diagnosing ignition components. Prerequisite(s): 461-310 Basic Engines/Systems, Intro to (or taken concurrently) and 461-312 Engine Theory 1 (or taken concurrently).

**461-340 Marine Inboards** **5 cr**  
This course is designed to give the student a fundamental understanding of marine inboard/outboard outdrive service. It covers four-cylinder, six-cylinder, and eight-cylinder marine engine tune-up, battery ignition and transistorized ignition systems service and maintenance, service procedures for cylinders, pistons, rings, connecting rods, cylinder heads, and valve trains, complete overhaul of outdrive, shimming of gears, dyno testing for performing winterization of powerhead, lower units, fuel systems, and electrical systems. Prerequisite(s): 461-310 Basic Engines/Systems,Intro to (or taken concurrently) and 461-312 Engine Theory 1 (or taken concurrently).

**461-360 Motorcycles** **5 cr**  
This course is designed to give the student the fundamentals of motorcycle fuel, oil, electrical, clutch, frame, engine, wheels, suspension, and brakes. It covers pre-delivery and maintenance procedures, engine and transmission systems, clutch and belt, chain and shaft drive systems. Prerequisite(s): 461-310 Basic Engines/Systems,Intro to (or taken concurrently) and 461-312 Engine Theory 1 (or taken concurrently).

## 462-Industrial Equip Mechanic

**462-110 Mechanical Concepts** **4 cr**  
This course is designed to give the student a basic understanding of the mechanical concepts that are found on industrial equipment. Since all industrial machinery is equipped with some type of mechanical drive, a firm understanding of these drives is necessary for the industrial mechanic. Cleanliness and safe working habits will also be emphasized. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

**462-115 Industrial PC Applications** **2 cr**  
The learner will develop skills in working with PC's to connect to PLC's, update drivers, install software, backup and restore files for PLC systems. Produce basic documents for preventive maintenance, share documents, use remote access and web based tools and locate resources using internet tools. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-120 Centrifugal Pumps & Alignment** **4 cr**  
This course is designed to give the student understanding and experience with various types of industrial pumps and drive mechanisms. Basic understanding of centrifugal pumps, theory of operation, installation,

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maintenance and troubleshooting of pumps and their systems. Students will work with Laser Alignment, and advanced linear slides and brakes and clutches. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and 462-110 Mechanical Concepts and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

## **462-121 Repair Automated Mfg Equipment 4 cr**

This course is designed to give the student understanding and experience with various types of automated equipment. Proper Lock-out & Tag-out and troubleshooting Motors and Motor Drives. The set-up and operation of the machinery and repair of such equipment and components on the equipment will be performed. Projects of function, troubleshooting, and repair will be the prime emphasis. Course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and 462-110 Mechanical Concepts and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

## **462-122 Preventative and Periodic Main 2 cr**

This course is designed to give the student the opportunity to research the items to be inspected in a preventive maintenance program. Students develop preventive maintenance schedules and perform actual inspections of mechanical, fluid power, and electrical systems. Techniques for troubleshooting and predictive diagnostics are explored. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and 462-110 Mechanical Concepts and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

## **462-123 Troubleshooting PLC Systems 3 cr**

This course is designed to use the basic and advanced electrical and electronic control devices in control simulated and actual automated industrial machines. Set up, operation, and system troubleshooting will be emphasized. Motor starters, PLC operations, air logic controllers, and electropneumatic components will be investigated. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and 462-110 Mechanical Concepts and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

## **462-124 Industrial Mechanics Document 2 cr**

Course introduces Industrial Mechanics students to the specific documentation for industry (OSHA topics) include maintenance logs, schematics, inspections and repair orders are explored and developed for use on the job site, as well as software tools available to assist in this function. Creation of portfolios for Industrial Mechanics hiring and unique aspects of technical interviews and common practices in hands on testing. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and 462-110 Mechanical Concepts and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

## **462-130 Mechanic Print Reading & Schem 1 cr**

This course allows the student to learn the symbols used in the maintenance industry and to put those symbols into circuits and diagrams. A unit is also given on blueprint reading consisting of basic symbols and reading the dimensions from various blueprints. Simulation software will be used to demonstrate operation of circuits and design

## **462-131 Mach Trbleshting & Repair Adv 2 cr**

This course is designed to give the student understanding and experience in machine troubleshooting. Methods of analyzing equipment failure will be investigated. Techniques for machine repair will be performed with the integration of each of four major disciplines in machine operation. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 462-120 Centrifugal Pumps & Alignment and 462-121 Repair Automated Mfg Equipment and 462-122 Preventative and Periodic Main and 462-123 Troubleshooting PLC Systems and 462-124 Industrial Mechanics Document.

## **462-140 Piping Systems 2 cr**

This course is designed to give the student understanding and experience on how to select, size, identify, and install a variety of piping, fittings and valves used in air, water and other process systems. Topics include iron pipe, steel tubing, hydraulic hose, plastic pipe, copper tubing and globe, gate, check and Sloan valves. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech.

## **462-141 Fluid Process Systems 2 cr**

Course provides an "hands-on" approach to the study of fluid handling systems. A wide variety of system components including pumps, piping, seals and packing, flow control devices, flow measuring devices and pressure vessels will be studied. Practice of installation, alignment, servicing and troubleshooting of process systems. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech.

## **462-150 Building System Maintenance 2 cr**

This course is designed to give the student an understanding of heating, cooling, lighting, security and other systems found in facility maintenance. Preventive maintenance, ordering, rigging considerations are examined. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech.

## **462-151 New Technologies in Ind. Maint 2 cr**

Technology continues to change the Industrial Maintenance landscape. This course will explore new technologies, update skills and determine the benefits of new processes. Topics will to reflect the needs of industry in relation to advances in Controls, PLC's, Motor/Drives, Process Control and hybrid technologies used in industry. Restricted to students admitted to the following program(s): 10-462-1 Industrial Mechanical Tech.

## **462-198 Process & Piping System-Ind St 5 cr**

This course is designed to give the student understanding and experience on how to select, size, identify, and install a variety of piping, fittings and valves used in air, water and other process systems. Practice to installation, calibration, PID loops for servicing and troubleshooting of process systems.

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**462-199 Building System & Tech Ind St** 5 cr  
This course is designed to give the student an understanding of heating, cooling, lighting, security and other systems found in facility maintenance. The integration of Controls, PLC's, Motors/Drives, Process Control and their application in industry.

**462-311 Mechanical Print Read & Schem** 1 cr  
This course allows the student to learn the symbols used in the maintenance industry and to put those symbols into circuits and diagrams. A unit is also given on blueprint reading consisting of basic symbols and reading the dimensions from various blueprints. Simulation software will be used to demonstrate operation of circuits and design.

**462-320 Centrifugal Pumps & Alignment** 4 cr  
This course is designed to give the student understanding and experience with various types of industrial pumps and drive mechanisms. Basic understanding of centrifugal pumps, theory of operation, installation, maintenance and troubleshooting of pumps and their systems. Students will work with Laser Alignment, and advanced linear slides and brakes and clutches. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and (462-110 Mechanical Concepts or 462-310 Mechanical Concepts) and (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept). Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-321 Repair Automated Mfg Equip** 4 cr  
This course is designed to give the student understanding and experience with various types of automated equipment. Proper Lock-out & Tag-out and troubleshooting Motors and Motor Drives. The set-up and operation of the machinery and repair of such equipment and components on the equipment will be performed. Projects of function, troubleshooting, and repair will be the prime emphasis. Course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and (462-110 Mechanical Concepts or 462-310 Mechanical Concepts) and (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept). Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-322 Preventative & Periodic Maint** 2 cr  
This course is designed to give the student the opportunity to research the items to be inspected in a preventive maintenance program. Students develop preventive maintenance schedules and perform actual inspections of mechanical, fluid power, and electrical systems. Techniques for troubleshooting and predictive diagnostics are explored. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and (462-110 Mechanical Concepts or 462-310 Mechanical Concepts) and 620-130 Industrial Elec Concepts. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-323 Industrial Mech Documentation** 2 cr  
Course introduces Industrial Mechanics students to the specific documentation for industry (OSHA topics) include maintenance logs, schematics, inspections and repair orders are explored and developed for use on the job site, as well as software tools available to assist in this function. Creation of portfolios for Industrial Mechanics hiring and unique aspects of technical interviews and common practices in hands-

on testing. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-340 Troubleshooting PLC Systems** 3 cr  
This course is designed to use the basic and advanced electrical and electronic control devices in control simulated and actual automated industrial machines. Set up, operation, and system troubleshooting will be emphasized. Motor starters, PLC operations, air logic controllers, and electropneumatic components will be investigated. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and (462-110 Mechanical Concepts or 462-310 Mechanical Concepts) and (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept). Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

**462-341 Machine Trblsht & Repr, Adv.** 2 cr  
This course is designed to give the student understanding and experience in machine troubleshooting. Methods of analyzing equipment failure will be investigated. Techniques for machine repair will be performed with the integration of each of four major disciplines in machine operation. The course is presented in the individual study mode to allow the students flexibility in scheduling their time. Prerequisite(s): 419-116 Basic Hydraulics and 419-117 Basic Pneumatics and (462-110 Mechanical Concepts or 462-310 Mechanical Concepts) and (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept).

## 475-Construction Worker

**475-100 Construction Safety** 1 cr  
During this course you will start with basic construction language, symbols, and print reading fundamentals. The main emphasis of this course will be to prepare the student to function at the job site when reading and interpreting construction drawings and framing plans. Proper use of the architects scale and understanding the different scales and their uses will be taught. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

**475-110 Frming Mthds/Bldng the Envlpe** 4 cr  
This is a first-semester course with an emphasis on residential construction. Fundamentals of planning, layout, and rough framing are basic to the course. This course introduces the student to the basic methods of floor framing with dimensional lumber, I joists, and floor trusses. Proper methods of wall framing and sheathing installation are covered. Proper methods of producing a well built air tight home will be covered in this course. It will cover proper home seal up, window and door installation, insulation, ventilation, and the importance of the drainage plane behind siding. At the conclusion of this course, the students should have developed the skills to frame a structure and apply the "Energy Star and Green Certification" requirements to residential construction. Prerequisite(s): 475-100 Construction Safety (or taken concurrently). Co-requisite(s): 475-111 Frmng Mthds/Bldng the Envl Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

**475-111 Frmng Mthds/Bldng the Envl Lab** 5 cr  
Students will develop skills and apply concepts and practices from the areas outlined in the course 475-110 Framing Methods/Building the

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Envelope. In this course, the installation of the roof system at the on-site project will be done. The main lab project is the construction of a single or multi-family dwelling on a real job site. At the conclusion of this course, students should have developed skills to frame a structure and apply the “Energy Star and Green Certification” requirements to residential construction. Prerequisite(s): 475-100 Construction Safety (or taken concurrently). Co-requisite(s): 475-110 Framing Methods/Bldg the Envelope and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

## **475-112 Const Basics & Print Reading** **2 cr**

During this course you will start with basic construction language, symbols, and print reading fundamentals. The main emphasis of this course will be to prepare the students to function at the job site when reading and interpreting construction drawings and framing plans. Proper use of the architects scales and their uses will be taught. Applied math skills used in the construction industry will be covered as well. Prerequisite(s): 475-100 Construction Safety (or taken concurrently). Co-requisite(s): 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-115 Roof Systems and Stairs. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

## **475-115 Roof Systems and Stairs** **3 cr**

The major emphasis of this course will be on roof systems from hand framing simple gable roofs to advanced intersecting roofs using trusses. The students will calculate the math, layout and cut practice hand framed rafters. They will be involved with many different types of roof problems including hip and valley roof systems. Understanding and installing truss packages at the on-site project is also included. Stair system’s layout and design to proper installation will be covered. Stair terminology and the application of the building codes also taught. The students will calculate, layout and cut practice stair stringers in the lab. Design, layout and installing of the stair systems at the on-site project is also included. Prerequisite(s): 475-100 Construction Safety (or taken concurrently). Co-requisite(s): 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-112 Const Basics & Print Reading. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

## **475-120 Finish Carpentry Int/Ext** **4 cr**

This course introduces the student to the basic methods of selecting and installing interior trim, doors, and cabinets. Layout and installation of finish stair materials and decorative railings will also be taught. Material selection and the product installation requirements will be covered. This course also introduces the student to the basic methods of selecting and installing exterior soffit and wall finishes as well as building decks. Material selections and the different installation requirements will be covered. At the conclusion of this construction of a single or multi-family dwelling on a real job site. Prerequisite(s): 475-100 Construction Safety and 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Co-requisite(s): 475-121 Finish Carpentry Int/Ext Lab and 475-124 Construction Planning and 475-125 Est Residential Constructio.

## **475-121 Finish Carpentry Int/Ext Lab** **5 cr**

This course introduces the student to the basic methods of selecting and

installing interior trim, doors, and cabinets. Layout and installation of finish stair materials and decorative railings will also be taught. Material selections and the product installation requirements will be covered. This course also introduces the student to the basic methods of selecting and installing exterior soffit and wall finishes as well as building decks. Material selections and the different installation requirements will be covered. At the conclusion of this course, the student should have developed the skills to finish the interior/exterior of most residential buildings. Prerequisite(s): 475-100 Construction Safety and 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Co-requisite(s): 475-120 Finish Carpentry Int/Ext and 475-124 Construction Planning and 475-125 Est Residential Construction.

## **475-124 Construction Planning** **2 cr**

Construction planning involves the many facets of residential design and construction. Building standards, design and structural loading is taught. Building requirements for “Energy Star Homes” and “Green Built” certification will be covered in this course. Kitchen planning, window schedules, and reading plot plans and site elevations are taught. Prerequisite(s): 475-100 Construction Safety and 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Co-requisite(s): 475-120 Finish Carpentry Int/Ext and 475-121 Finish Carpentry Int/Ext Lab and 475-125 Est Residential Constructio.

## **475-125 Est Residential Construction** **3 cr**

This course introduces the student to the basic methods of estimating light building construction and develops a system for doing quantity take off of materials. The student should develop skills to complete carpentry materials and labor. Material board feet, square feet and lineal foot pricing will be taught. At the conclusion of this course, the student should have developed the skills to complete preliminary material and labor estimates for residential construction. Prerequisite(s): 475-100 Construction Safety and 475-110 Framing Methods/Bldg the Envelope and 475-111 Framing Methods/Bldg the Envelope Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs. Co-requisite(s): 475-120 Finish Carpentry Int/Ext and 475-121 Finish Carpentry Int/Ext Lab and 475-124 Construction Planning.

## **484-Biofuels**

### **484-150 Biodiesel Production** **2 cr**

Students will learn how to extract raw vegetable oil from various oilseed crops. Safe, efficient, and cost-effective seed cleaning, seed press operations, and biodiesel transesterification processing will be laboratory components of the course offering. Students will operate press systems to extract raw oil from multiple oil seed plant species, work with oil cleaning systems, and learn about facility requirements for oil processing. The economics of this alternative fuel system will also be studied along with state and federal tax and reporting requirements. Life cycle analyses will be addressed with sustainability and greenhouse gas emission characteristics. The offering additionally includes learning experiences conducting quality and performance analyses of student-produced biodiesel fuel. Quality analysis will be comparative to ASTM D6751 fuel standards. Performance testing may be conducted using

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various biodiesel blends (B5-B100) comparative to 100 percent number 2 petroleum-based diesel fuel. Manufacturer's engine warranties will also be reviewed. Quality testing for blend percent, total glycerin percent, methanol content, viscosity, and acid number will be explained and performed.

## 501-Medical Terminology

### 501-101 Medical Terminology 3 cr

This course focuses on the component parts of medical terms: prefixes, suffixes, and word roots. Students practice formation, analysis, and reconstruction of terms. Emphasis on spelling, definition, and pronunciation. Introduction to operative, diagnostic, therapeutic, and symptomatic terminology of all body systems, as well as systemic and surgical terminology.

### 501-107 Intro to Healthcare Computing 2 cr

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, spreadsheet, database, Internet, and electronic mail.

### 501-120 Medical Office Computing 2 cr

Learners develop introductory skills for using computers in the medical office setting. The types of hardware and software typically found in the medical office are discussed along with maintenance and keyboarding ergonomics. Students will learn the functionality of Windows, the Internet, Microsoft Word, Excel, Outlook, and an electronic medical record. Using these software programs, students will practice activities related to medical office duties such as managing files and folders, creating Word documents, mail merge, attaching documents to e-mails, internet searches, creating calculated spreadsheets, entering patient information into the electronic medical record and retrieving data from the electronic medical record. Restricted to students admitted to the following program(s): TC-509-2 Medical Office Receptionist.

### 501-130 Healthcare IT 2 cr

Learners develop introductory skills for use of the electronic health record (EHR). Explores the impact of computers in healthcare, computer terminology, file management, and common software applications. Emphasizes data structure, data and vocabulary standards, and database models in relation to the EHR. Includes the use of public healthcare databases and an exposure to administrative and clinical information systems in healthcare. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

### 501-140 Multidisciplinary Healthcare 1 cr

This is a course with students from multiple disciplines, which will promote collaboration, greater understanding of other disciplines represented, and work collaboratively in both a hybrid online learning environment and in a simulated clinical experience. Prerequisite(s): (515-112 Respiratory Airway Management and 515-113 Respiratory Life Support) or (543-112 Nursing Advanced Skills and 543-111 Nsg: Intermed Clin Practice) or 531-912 Paramedic Medical Principles. Restricted to students admitted to the following program(s): 10-515-1

Respiratory Therapy, 10-543-1 Nursing-Associate Degree, 10-531-1 Paramedic Technician.

### 501-308 Pharmacology for Allied Health 2 cr

Introduces students to classifying medications into correct drug categories and applying basic pharmacology principles. Students apply basic pharmacodynamics to identifying common medications, medication preparation, and administration of medications used by the major body systems. Prerequisite(s): (501-101 Medical Terminology and 501-120 Medical Office Computing and 509-302 Human Body in Health & Disease and 509-303 Medical Asst Lab Procedures 1 and 509-304 Medical Asst Clin Procedures 1 and 801-195 Written Communication) and (509-309 Medical Law, Ethics & Profess (or taken concurrently) and 509-301 Medical Asst Admin Procedures (or taken concurrently) and 509-307 Med Office Insurance & Finance (or taken concurrently). Co-requisite(s): 509-305 Med Asst Lab Procedures 2 and 509-306 Med Asst Clin Procedures 2 and 509-310 Medical Assistant Practicum. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

## 502-Barbering/Cosmetology

### 502-301 Haircutting 1 2 cr

Topics of this course include: basic techniques and principles used in male and female haircutting techniques, client consultation procedures, safety and sanitation procedures, and professionalism. This course will also introduce basic product knowledge and retail skills. Co-requisite(s): 502-310 Chemical Services 1. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

### 502-304 Haircutting 2 3 cr

Topics of this course include: intermediate techniques and principles used in haircutting, ethnic hair cutting techniques, client consultation procedures, safety and sanitation procedures, mustache and beard trim and shave, and identifying face shapes and create appropriate style. Prerequisite(s): 502-301 Haircutting 1 (or taken concurrently). Co-requisite(s): 502-321 Salon Services 1. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

### 502-305 Haircutting 3 3 cr

This course will provide students with advanced female and male haircutting techniques, trend cutting techniques, client make-over techniques, safety and sanitation procedures and professionalism. Prerequisite(s): 502-304 Haircutting 2. Co-requisite(s): 102-302 Salon Business Operations and 502-324 Salon Services 4.

### 502-310 Chemical Services 1 3 cr

Topics of this course include: chemical services that include basic perm waving and basic coloring techniques. Fundamentals of this would include: safety and sanitation procedures, client consultation procedures, shampooing procedures, sectioning, wrapping, basic coloring techniques, temporary color services, semi-permanent color services, permanent hair coloring techniques and hair removal techniques related to facial waxing services. Co-requisite(s): 502-301 Haircutting 1. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

### 502-311 Hair Styling 2 cr

This course provides a general knowledge of the skin, hair and

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finishing techniques. Fundamentals would include: product knowledge, application of conditioning treatments for hair. Fundamentals will also include: thermal styling techniques, basic braiding, wig styling, extensions, updo techniques, and blow-dry styling. Prerequisite(s): 502-314 Chemical Services 2 (or taken concurrently) and 502-322 Salon Services 2 (or taken concurrently).

**502-314 Chemical Services 2** **3 cr**  
Chemical services that include: advanced coloring techniques and chemical relaxing procedures. Fundamentals include: bleaching techniques, tipping and highlighting, color correction techniques, toning techniques, advanced applications, chemical relaxing techniques, product knowledge of thioglycolate and sodium hydroxide relaxer chemicals. Prerequisite(s): 502-310 Chemical Services 1. Co-requisite(s): 502-322 Salon Services 2.

**502-320 Nail Technology** **2 cr**  
Hand and nail care, including nail enhancements, nail care, pedicures, and manicures. Fundamentals will include basic nail terminology, basic acrylics, basic nail design, product knowledge, and safety and sanitation practices. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

**502-321 Salon Services 1** **4 cr**  
This course will provide students with hands-on training using fundamentals of haircutting, perm waving, color, and nail techniques, while practicing safety and sanitation procedures and professionalism. This course will be taught in a lab setting providing cosmetology services to the public. Product knowledge and retail skills will also be practiced. Prerequisite(s): 502-301 Haircutting 1 (or taken concurrently) and 502-320 Nail Technology (or taken concurrently) and 806-321 Salon Science (or taken concurrently). Co-requisite(s): 502-304 Haircutting 2. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

**502-322 Salon Services 2** **4 cr**  
This course will provide students with hands-on training using the fundamentals of Salon Services 1 and using intermediate haircutting techniques, advanced coloring techniques, and chemical service procedures, while practicing safety and sanitation procedures and professionalism. This course will be taught in a lab setting providing cosmetology services to the public. Product knowledge and retail skills will also be practiced. Prerequisite(s): (502-304 Haircutting 2 and 502-321 Salon Services 1). Co-requisite(s): 502-314 Chemical Services 2.

**502-323 Salon Services 3** **4 cr**  
This course will provide students with hands-on training using the fundamentals of Salon Services 1 and 2, as well as, conditioning and styling techniques. These techniques will also practice safety and sanitation techniques and professionalism. Product knowledge and retail skills will also be practiced. Prerequisite(s): 502-314 Chemical Services 2 (or taken concurrently) and 502-322 Salon Services 2 (or taken concurrently) and 502-311 Hair Styling (or taken concurrently) and 104-301 Salon Marketing (or taken concurrently). Co-requisite(s): 502-330 Facial Services.

**502-324 Salon Services 4** **4 cr**  
This course will provide students with hands-on training using the

fundamentals of Salon Services 1, 2, and 3, as well as facial techniques, basic makeup application, and advanced female and male hair cutting techniques. Prerequisite(s): 502-323 Salon Services 3. Co-requisite(s): 102-302 Salon Business Operations and 502-305 Haircutting 3.

**502-325 Salon Services 5** **4 cr**  
This course will provide students with hands-on applications using the fundamentals of Salon Services 1, 2, 3, and 4, as well as advanced marketing techniques, safety and sanitation, and professionalism. Prerequisite(s): (502-305 Haircutting 3 (or taken concurrently) and 502-324 Salon Services 4 (or taken concurrently)). Co-requisite(s): 502-371 Advanced Salon Operations.

**502-330 Facial Services** **2 cr**  
Topics covered in this course include: facial treatment techniques for facial treatments, packs and/or masks, facial massage movements, basic makeup application and removal, safety and sanitation procedures, and professionalism. Prerequisite(s): 502-311 Hair Styling (or taken concurrently). Co-requisite(s): 502-323 Salon Services 3.

**502-371 Advanced Salon Operations** **3 cr**  
Topics covered in this course will include: pre-training review, State laws and codes, State Board preparation, salon observations, advanced sales and marketing techniques, safety and sanitation techniques and professionalism. Prerequisite(s): 102-302 Salon Business Operations (or taken concurrently) and 104-301 Salon Marketing and 502-305 Haircutting 3 (or taken concurrently) and 502-311 Hair Styling and 502-320 Nail Technology and 502-324 Salon Services 4 (or taken concurrently) and 502-330 Facial Services and 806-321 Salon Science. Co-requisite(s): 502-325 Salon Services 5.

## 503-Fire Technology

**503-102 Firefighting Principles** **4 cr**  
This course includes classroom and practical training sessions on the basic fundamentals needed by entry-level firefighters and meets the objectives of the Wisconsin's Firefighter I certification course. Upon completion, students must pass the certification exam for Firefighter I, State of Wisconsin.

**503-105 Principles of Firefighting** **3 cr**  
This course introduces the student to the basic skills and techniques used in firefighting. Classroom instruction includes a variety of fire-related topics which are reinforced and enhanced through practical skills activities. The course content follows the requirements for NFPA 1001 Firefighter I. Upon completion, the student is eligible to test for state fire certification. Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

**503-106 Fire Inspection Services** **2 cr**  
This course familiarizes the students with state and local statutes and national codes relating to fire prevention. The course requires the completion of actual inspections and pre-plans. In addition, the course has a public education section which requires students to present fire safety for all age groups. Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

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**503-107 Fire Dept Apparatus Ops** **3 cr**  
This course prepares firefighters to drive and operate fire department emergency apparatus. The course presents theories of hydraulics as applied to the fire service, with emphasis on mathematics, and formulas used in operating fire apparatus pumps. Students receive lecture and practical training on maintenance, driving, operating on-board pumps and equipment, and apparatus testing. The course content meets the NFPA 1002 requirement for fire department pumper driver/operator. Prerequisite(s): 503-105 Principles of Firefighting (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

**503-114 Fire Investigation** **3 cr**  
This course covers the fundamentals of fire investigation practices and procedures. The student will be given an understanding of the role of the modern fire investigator and the techniques used to determine the cause and circumstances of various fire situations, including arson. Restricted to students admitted to the following program(s): 10-503-2 Fire Protection Technician.

**503-130 FireMedic Internship** **2 cr**  
This course allows second-year program students to actively participate as a 'working' member of a fire department. Students work the 24-hour shift schedule at one full-time local fire department, and perform the same duties as the firefighters. Evaluation is determined by fire department officials and the course instructor. Prerequisite(s): Successful completion of entrance exams: written, physical ability, physical exam, and interview. Prerequisite(s): (503-105 Principles of Firefighting and 503-106 Fire Inspection Services and 503-107 Fire Dept Apparatus Ops and 503-141 Special Rescue).

**503-130A Fire Internship** **1 cr**  
This course is designed for completion of the FireMedic internship component by students who are currently licensed or nationally registered EMT-Paramedics. This course allows second-year program students to actively participate as a 'working' member of a fire department. Students work the 24-hour shift schedule at full-time fire departments and perform the same duties as the firefighters. Evaluation is determined by fire department officials and the course instructor. Prerequisite(s): Successful completion of entrance exams; written, physical ability, physical exam, and interview. Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

**503-141 Special Rescue** **3 cr**  
This course introduces the various types of special rescues required by many fire/EMS organizations. Classroom presentations and practical evolutions will be conducted on Confined Space and Trench Entry and Rescue, Water Rescue, Vehicle Extrication, and High Angle Rescue. Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

## 504-Criminal Justice

**504-103 LE Strategies for Employment** **3 cr**  
This course entails essential steps in preparing and obtaining a position in the field of Law Enforcement. Students will explore the various aspects of each setting from an organizational perspective. Resume, letter of application and portfolio tools will be created. Practical applications

for job interviewing will take place along with learning from area employers how to conduct a successful interview. Part of the course will be devoted to the preparation and execution of building physical agility. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-107 Law Enforcement Crisis Mgmt** **2 cr**  
In this course, students will learn principles, guidelines and techniques for law enforcement and others in the criminal justice field response to persons with possible mental disorders, alcohol or drug problems, dementia disorders, and/or developmental disabilities. Students will become more familiar and able to recognize traits of mental health disorders to better handle crisis situations and provide the appropriate resources to assist a person in crisis in their own communities. Students will also learn and apply the legal basis under Wisconsin law for conducting emergency detentions and emergency protective placements of persons, as well as legal requirements and practical guidelines for implementing these procedures. Students will gain awareness and explore how their own experiences in law enforcement may affect their own well-being and mental health on duty and off duty. They will learn techniques to become emotional survivors in the law enforcement/criminal justice field. Prerequisite(s): 504-900 Intro to Criminal Justice and 504-907 Community Policing Strategies. Co-requisite(s): 504-903 Professional Communications and 504-905 Report Writing. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-121 Patrol Procedures** **4 cr**  
Patrol officer's role; explanation of handling usual and unusual assignments; strategies of officer survival; patrol tactics; traffic stops. Prerequisite(s): (504-160 Community Policing or 504-907 Community Policing Strategies) and 504-903 Professional Communications. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-134 Crash Investigation II** **2 cr**  
This course focuses on what information should be collected at a crash scene and the best methods to collect that scene data. Crash investigation (I) exposed the students to the various marks that can be found; this section will identify and explore the significance of the marks. Basic speed estimates will be taught as well as advanced applications of the traffic template. Additionally locating, identifying, and collecting evidence on a vehicle or from pedestrians involved in crashes will be taught. Attendees will learn the importance of vehicle examinations and the meaning of thrust and how it applies to vehicle location and positions on the roadway. Students will learn how to determine and apply time/distance issues to crash situations. Special topics like nighttime problems, motorcycle and pedestrian issues, lamps, tires, and safety equipment inspections will be addressed.

**504-162 Contemp. Issues in Crim. Just.** **3 cr**  
An examination of all levels of criminal justice system, public and private, in contemporary issues that impact on these agencies now and in the future. It will investigate futuristic challenges and concerns of these agencies as they relate to legal, social, economic, political and employment opportunities.

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**504-166 Criminal Justice Internship** 3 cr  
Firsthand observation within a criminal justice agency of the student's choice; learning activities provided on-site with participating agencies. Prerequisite(s): (504-101 Criminal Justice, Intro to or 504-900 Intro to Criminal Justice) and (504-131 Traffic Theory or 504-908 Traffic Theory) and (504-135 Juvenile Law or 504-904 Juvenile Law) and (504-160 Community Policing or 504-907 Community Policing Strategies) and 504-170 Corrections, Intro to. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-170 Corrections, Intro to** 3 cr  
State and county correction systems; theories of corrections; historical development; alternatives to incarceration; probation and parole; how the law enforcement and corrections portions of the criminal justice system work together.

**504-175 Law Enforcement Cert I** 4 cr  
Students in this course study guidelines for use of deadly force, the importance of maintaining a good holster and duty belt, load, unload, fire and maintain firearms, follow procedures after firearms combat, objectives of the use of force, arrest process, defensive and arrest tactics, the confrontation continuum, using necessary force, defensive and arrest tactics, and frisking and searching; emphasis will be on tactical and decision shooting exercises/activities. Additional instruction will include the area of emergency first aid based on the Wisconsin Department of Justice objectives. This class is limited to Law Enforcement Certification Track Associate Degree students. Prerequisite(s): (504-900 Intro to Criminal Justice or 504-101 Criminal Justice, Intro to) and (504-131 Traffic Theory or 504-908 Traffic Theory) and (504-135 Juvenile Law or 504-904 Juvenile Law) and (504-160 Community Policing or 504-907 Community Policing Strategies) and 504-170 Corrections, Intro to. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-176 Law Enforcement-Cert II** 4 cr  
This course will combine classroom instruction with competency-based lab exercises. Instruction included in this course includes: traffic direction, uniform traffic citation, accident report (MV4000), emergency vehicle operation, high and low risk traffic stops, and roadblocks. Additional instruction will include areas of study not covered in other two-year courses that are required material for the student to achieve certifiability as a law enforcement officer in Wisconsin. This class is limited to Law Enforcement Certification Track Associate Degree students. Prerequisite(s): 504-175 Law Enforcement Cert I. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-322 Interviewing** 1 cr  
This module is comprised of techniques of interviewing suspects, victims, witnesses, as well as preparing reports and field notes. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-325 Traffic Law & Enforcement** 1 cr  
This is comprised of traffic law and enforcement, vehicle stops, and procedures of officer violator/citizenry contacts. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-328 Traffic Accident Investigation** 1 cr  
This unit is comprised of the officer's role in traffic accident investigation and reporting, alcohol and beverage laws, narcotics laws victim witness assistance and crisis intervention, addressing and dealing with friendly and hostile groups, and disaster and hazardous materials preparation and planning. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-329 Juvenile Law** 1 cr  
This instruction addresses the juvenile code, Wisconsin's Mental Health Act, community awareness, and crime prevention. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-331 Professional Communications** 1 cr  
Topics include professional communications, facilitation, and problem solving. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-350 Police Academy Scenario Eval** 1 cr  
A minimum of seven scenarios will be set up for each recruit. Students will be expected to apply all knowledge and skills learned prior to this course. An evaluation will be conducted for each scenario based on desired outcomes. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-351 Policing in America** 1 cr  
Students will learn the rules and procedures of the academy and how the various elements of the criminal justice system relate as well as the importance of professionalism. Exploration of the role of law enforcement officers in a democracy along with topics to include belief system pressures, moral problems, decision-making and consequences of decision will be studied. Resources available in communities to assist law enforcement officers along with issues involved policing in a diverse society will be addressed. This course covers Wisconsin required written law enforcement agency policies and procedures. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-352 The Legal Context** 2 cr  
This covers the structure of the criminal justice system, including criminal procedure. Learn the legal bases for law enforcement action such as arrest, use of force and search and seizure, as well as the limits on law enforcement activity. Students will learn the classifications of crimes and other violations including felonies, misdemeanors, and ordinance violations, and the elements of crimes listed in the criminal code. Laws and procedures that affect juveniles, including those related to taking a juvenile into custody, will be discussed. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-353 Tactical Skills** 3 cr  
Students will learn the basis for and limits to use of force by Wisconsin officers including specific techniques for intervention covered in the Wisconsin system of Defense and Arrest tactics. In addition, students will learn necessary weapons handling skills and how to care for and maintain handguns. Skill development in shooting quickly, accurately,

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and firing under various conditions will be practiced. The basics of room tactical movement, use of cover and concealment, and application to emergency will be learned. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-354 Relational Skills** **3 cr**  
Students will develop writing skills for law enforcement reports. They will explore the role of communication in law enforcement, develop and apply specific professional communication skills and strategies in simulated situations. The course will examine principles, guidelines, and techniques for proper law enforcement response to people with possible mental disorders, alcohol or drug problems, and/or developmental disabilities. Legal base requirements and practical guideline for conducting emergency and protective placement of persons will be studied. Presenting effective court testimony will be simulated. Explore evolving police strategies, activities and attitudes that build effective law enforcement and community relationships, as well as problem-oriented policing. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-355 Patrol Procedures** **4 cr**  
Students will become familiar with Wisconsin's traffic laws and ordinances, including those related to operator licensing and vehicle registration and equipment. Students will acquire skill to enforce the complete Wisconsin Uniform Traffic Citations and (as needed) to direct and control traffic effectively. Material covered includes steps taken as first-in officer to stabilize a complex scene, investigate traffic accidents, take appropriate enforcement actions, and prepare reports. Individual will execute emergency vehicle operation including basic patrol operation, emergency vehicle response and pursuit driving. Students will study the legal basis for making vehicle contacts, techniques for conducting a threat assessment and procedure to control types of vehicle contact. The process for administering and interpreting the operation vehicle while intoxicated standardized field sobriety test (OMVWI/SFST) will be conducted. In addition, students will acquire skill in performing an initial medical assessment for injury or medical condition, provide treatment. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-356 Investigations** **2 cr**  
This course provides techniques and procedures necessary to interview or interrogate adult and juvenile witnesses, suspects, and victims. Students will learn how to recognize, process, and preserve physical evidence and how to respond to crime victims. Explore the dynamics of victimization and victim's rights. Students will study the statutory elements of each of the sensitive crimes and the dynamics, impacts, and investigative strategies unique to these crimes. Restricted to students admitted to the following program(s): 30-504-1 Crim Jus-Law Enf Academ.

**504-900 Intro to Criminal Justice** **3 cr**  
History of the criminal justice system; philosophy of law enforcement; civil and criminal law; local, state and federal law enforcement; career opportunities.

**504-901 Constitutional Law** **3 cr**  
Arrest with and without warrants; searches with or without warrants; exclusionary rules. Prerequisite(s): (504-902 Criminal Law or 504-113 Criminal Law) and 504-905 Report Writing.

**504-902 Criminal Law** **3 cr**  
Principles for criminal liability; historical development; elements of crimes; criminal defenses. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

**504-903 Professional Communications** **3 cr**  
This course is the study of aspects of professional communications in modern law enforcement and the application of both interview and interrogation techniques for law enforcement officers. Various approaches will be examined with an emphasis on the process of complete communication as well as interviewing and interrogating both witnesses and suspects. An overview of the legal limitations on interrogations will also be included. Prerequisite(s): 504-902 Criminal Law or 504-113 Criminal Law.

**504-904 Juvenile Law** **3 cr**  
Causes and factors of delinquency; gangs; child abuse; drug abuse; police and juveniles; detention and rehabilitation; court system; intake worker. Prerequisite(s): 504-113 Criminal Law or 504-902 Criminal Law (or taken concurrently).

**504-905 Report Writing** **3 cr**  
Structure and methods of factual writing; spelling, punctuation, paragraphing, purpose and principles of effective writing; report content.

Prerequisite(s): (504-902 Criminal Law (or taken concurrently) or 504-113 Criminal Law) and (801-195 Written Communication and 801-171 Business English.

**504-906 Criminal Investigation Theory** **3 cr**  
Preliminary investigation, crime scene control; identify and collect evidence; develop information; court presentation of evidence. Prerequisite(s): (504-113 Criminal Law or 504-902 Criminal Law) and 504-903 Professional Communications.

**504-907 Community Policing Strategies** **3 cr**  
Concepts of public and community relations; understanding the criminal justice system and citizens; community relations in successful law enforcement; historical development of modern United States law enforcement; understanding modern law enforcement agency as a 'helping' organization.

**504-908 Traffic Theory** **3 cr**  
Wisconsin traffic code; traffic control; traffic law enforcement techniques; accident investigation; officer/violator relationship.

## 508-Dental

**508-101 Dental Health Safety** **1 cr**  
Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; students will be required to show proof of certification before beginning the course. Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist, 30-508-2 Dental Assistant.

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**508-102 Oral Anatomy, Embry, Histology** 4 cr  
Prepares Dental Hygienist students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption, and health. Prerequisite(s): 806-177 Gen Anatomy & Physiology and 508-101 Dental Health Safety (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-103 Dental Radiography** 2 cr  
Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extral oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course, students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently) and 508-102 Oral Anatomy, Embry, Histology (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-105 Dental Hygiene Process 1** 4 cr  
Introduces Dental Hygiene students to the basic technical/clinical skills required of practicing Dental Hygienists including use of basic dental equipment, examination of patients, and procedures within the dental unit. Under the direct supervision of an instructor, students integrate hands-on skills with entry-level critical thinking and problem-solving skills. The course also reinforces the application of Dental Health Safety skills. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently) and 508-102 Oral Anatomy, Embry, Histology (or taken concurrently) and 508-103 Dental Radiography (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-106 Dental Hygiene Process 2** 4 cr  
This clinical course builds on and expands the technical/clinical skills student dental hygienists began developing in Dental Hygiene Process I. Under the direct supervision of an instructor, students apply patient care assessment, planning, implementation, and evaluation skills to provide comprehensive care for calculus case type 1 and 2 patients and perio case type 0, I, and II patients. This course introduces the application of fluoride and desensitizing agents, whole mouth assessments, comprehensive periodontal examinations, application of sealants, and patient classification. Students also begin performing removal of supragingival stain, dental plaque, calcified accretions, and deposits. In addition, they gain further experience in exposing radiographs on patients. The course also reinforces the application of Dental Health Safety skills. Prerequisite(s): 508-102 Oral Anatomy, Embry, Histology and 508-103 Dental Radiography and 508-105 Dental Hygiene Process 1.

**508-107 Dental Hygiene Ethics & Profes** 1 cr  
Helps student dental hygienists develop and apply high professional and ethical standards. Students apply the laws that govern the practice of dental hygiene to their work with patients, other members of a dental team and the community. Emphasis is placed on maintaining confidentiality and obtaining informed consent. Students enhance their

ability to present a professional appearance. Prerequisite(s): 508-112 Dental Hygiene Process 3. Co-requisite(s): 508-117 Dental Hygiene Process 4. Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-108 Periodontology** 3 cr  
This course prepares student dental hygienists to assess the periodontal health of patients, plan prevention and treatment of periodontal disease, and to evaluate the effectiveness of periodontal treatment plans. Emphasis is placed on the recognition of the signs and causes of periodontal disease and on selection of treatments modalities that minimize risk and restore periodontal health. Prerequisite(s): 508-102 Oral Anatomy, Embry, Histology and 508-103 Dental Radiography and 806-186 Intro to Biochemistry and 806-197 Microbiology and 508-106 Dental Hygiene Process 2 (or taken concurrently) and 508-111 General & Oral Pathology (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-109 Cariology** 1 cr  
This course focuses on the characteristics and contributing factors of dental decay. Dental Hygiene students help patients minimize caries risk by developing treatment plans, communicating methods to patients, and evaluating treatment results. Prerequisite(s): 806-186 Intro to Biochemistry and 806-197 Microbiology and 508-106 Dental Hygiene Process 2 (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-110 Nutrition and Dental Health** 2 cr  
Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets and to construct diets that meet the needs of patients with compromised dental/oral health. Students also learn to counsel patients about the effect of eating disorders on dental health. Prerequisite(s): 806-186 Intro to Biochemistry (or taken concurrently). Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-111 General & Oral Pathology** 3 cr  
This course prepares the student dental hygienist to determine when to consult, treat or refer clients with various disease, infection or physiological conditions. Students learn to recognize the signs, causes, and implications of common pathological conditions including inflammatory responses, immune disorders, genetic disorders, developmental disorders of tissues and cysts, oral tissue trauma, and neoplasm of the oral cavity. Prerequisite(s): 508-102 Oral Anatomy, Embry, Histology and 508-103 Dental Radiography and 508-106 Dental Hygiene Process 2 (or taken concurrently) and 806-177 Gen Anatomy & Physiology. Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

**508-112 Dental Hygiene Process 3** 5 cr  
This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process II. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case type 1, 2, and 3 patients and perio case type 0, I, II, and III patients. This course introduces root detoxification using hand and ultrasonic instruments, manipulation of files, use of oral irrigators, selection of

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dental implant prophylaxis treatment options, and administration of chemotherapeutic agents. Students also adapt care plans in order to accommodate patients with special needs. Prerequisite(s): 508-106 Dental Hygiene Process 2 and 508-108 Periodontology and 508-109 Cariology and 508-110 Nutrition and Dental Health and 508-111 General & Oral Pathology.

## **508-113 Dental Materials** **2 cr**

Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances. Prerequisite(s): 508-101 Dental Health Safety and 508-102 Oral Anatomy, Embry, Histology (or taken concurrently) and 508-103 Dental Radiography (or taken concurrently).

## **508-114 Dental Pharmacology** **2 cr**

Prepares student dental hygienists to select safe and effective patient premedication, local anesthetic, chemo therapeutic, and antimicrobial agents within the scope of dental hygiene practice. Students will also learn to recognize potential pharmacological contraindications for specific patients and to take measures to avoid negative impact or alert other members of the dental team to possible negative impact. Prerequisite(s): 508-106 Dental Hygiene Process 2 and 806-186 Intro to Biochemistry and 806-197 Microbiology and 508-112 Dental Hygiene Process 3 (or taken concurrently).

## **508-115 Community Dental Health** **2 cr**

This course prepares the Dental Hygienist student to play a proactive role in improving the dental health of community members of all ages. Students perform and interpret dental health research to determine community dental health needs. They also participate in the development, implementation, and evaluation of a community dental health program. Prerequisite(s): 508-112 Dental Hygiene Process 3 (or taken concurrently).

## **508-116 Dental Pain Management** **1 cr**

This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage pain for dental patients. Students learn to prevent and manage common emergencies related to administration of local anesthesia, prepare the armamentarium, and administer local anesthesia. The course also addresses the recommendation of alternative pain control measures. Prerequisite(s): 508-102 Oral Anatomy, Embry, Histology and 508-103 Dental Radiography and 508-112 Dental Hygiene Process 3 and 508-114 Dental Pharmacology.

## **508-117 Dental Hygiene Process 4** **4 cr**

This clinical course builds on and expands the technical/clinical skills student dental hygienists developed in Dental Hygiene Process III. With feedback from the instructor, students manage all aspects of cases in the course of providing comprehensive care for calculus case type 0, 1, 2, and 3 patients and for perio case type 0, I, II, and III patients. Emphasizes maximization of clinical efficiency and effectiveness. Prepares student dental hygienists to demonstrate their clinical skills in a formal examination situation. Prerequisite(s): 508-112 Dental Hygiene Process 3 and 508-113 Dental Materials and 508-114 Dental Pharmacology and 508-115 Community Dental Health.

## **508-118 Health Occupations Career** **1 cr**

Simulated written and practical exams, individualized study plans, stress/test anxiety management strategies, and dental hygiene license attainment will be addressed. Strengthen dental hygiene performance on written and clinical practical exams. Prerequisite(s): 508-112 Dental Hygiene Process 3. Co-requisite(s): 508-117 Dental Hygiene Process 4. Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

## **508-119 Dental Hyg Natl Board Review** **1 cr**

This will not be offered on campus but students are given information and encouraged to attend one of the National Board Review courses offered in major cities (our students usually travel to Chicago in January).

## **508-122 Process V Clin Enrichment** **1 cr**

The course will focus on patient assessment skills, comprehensive patient treatment, billing and recordkeeping. Students will see a wide variety of patients scheduled throughout the day more closely simulating private practice. Students will be expected to make patient assessments, do treatment plans according to the patient's classification, complete routing/billing forms for the front desk, take both analogue and digital x-rays, place sealants, perform prophylaxis, debridement, root planing and scaling, patient education, smoking cessation, fluoride treatments and dental charting as well as consult with the staff dentist during the exam to coordinate future treatment. Prerequisite: 508-117 Dental Hygiene Process IV or completion of an accredited Dental Hygiene program and current CPR certification, and (Wisconsin State Licensure if returning for refresher course).

## **508-301 Dental Health Safety** **2 cr**

Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; students will be required to show proof of certification before beginning the course. Co-requisite(s): 508-302 Dental Chairside and 508-303 Dental Materials and 508-304 Dental & General Anatomy and 508-305 Applied Dental Radiography and 508-306 Dental Assistant Clinical and 508-307 Dental Assistant Professional. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **508-302 Dental Chairside** **5 cr**

Prepares dental assistant students to chart oral cavity structures, dental pathology, and restorations and to assist a dentist with basic dental procedures including examinations, pain control, amalgam restoration, and cosmetic restoration. Students will also develop the ability to educate patients about preventive dentistry, brushing and flossing techniques, and dental procedures, using lay terminology. Throughout the course, students will apply decoding strategies to the correct use and interpretation of dental terminology. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently). Co-requisite(s): 508-303 Dental Materials and 508-304 Dental & General Anatomy and 508-305 Applied Dental Radiography and 508-306 Dental Assistant Clinical and 508-307 Dental Assistant Professional. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

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## **508-303 Dental Materials**

**2 cr**

Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on manikins and clean removable appliances.

Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently).

Co-requisite(s): 508-302 Dental Chairside and 508-304 Dental & General Anatomy and 508-305 Applied Dental Radiography and 508-306 Dental Assistant Clinical and 508-307 Dental Assistant Professional.

Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **508-304 Dental & General Anatomy**

**2 cr**

Prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently). Co-requisite(s): 508-302 Dental Chairside and 508-303 Dental Materials and 508-305 Applied Dental Radiography and 508-306 Dental Assistant Clinical and 508-307 Dental Assistant Professional. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **508-305 Applied Dental Radiography**

**2 cr**

Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extral oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. In this course students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer, role-play patient. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently). Co-requisite(s): 508-302 Dental Chairside and 508-303 Dental Materials and 508-304 Dental & General Anatomy and 508-306 Dental Assistant Clinical and 508-307 Dental Assistant Professional. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **508-306 Dental Assistant Clinical**

**3 cr**

Students apply skills developed in Dental and General Anatomy, Dental Health Safety, Dental Chairside, Dental Materials, Dental Radiography, and Professionalism in a clinical setting with patients. Emphasizes integration of core abilities and basic occupational skills. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently). Co-requisite(s): 508-302 Dental Chairside and 508-303 Dental Materials and 508-304 Dental & General Anatomy and 508-305 Applied Dental Radiography and 508-307 Dental Assistant Professional. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **508-307 Dental Assistant Professional**

**1 cr**

Prepares dental assistant students for professional success in a dental practice or another dental health care environment. Students develop professional appearance and image. More importantly, they learn to work within ethical guidelines and legal frameworks. In preparation for entering the work force, dental assistants customize or develop their portfolios and lay out an ongoing professional development plan. Prerequisite(s): 508-101 Dental Health Safety (or taken concurrently). Co-requisite(s): 508-302 Dental Chairside and 508-303 Dental Materials and 508-304 Dental & General Anatomy and 508-305 Applied Dental Radiography and 508-306 Dental Assistant Clinical. Restricted to students admitted to the following program(s): 30-508-2 Dental Assistant.

## **509-Medical Assistant**

### **509-301 Medical Asst Admin Procedures**

**2 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 inventory or supplies. Prerequisite(s): 501-120 Medical Office Computing (or taken concurrently). Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

### **509-302 Human Body in Health & Disease**

**3 cr**

Focuses on diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize human 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(s): 501-101 Medical Terminology (or taken concurrently). Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant, 30-534-1 Central Serv Technician.

### **509-303 Medical Asst Lab Procedures 1**

**2 cr**

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. Co-requisite(s): 509-304 Medical Asst Clin Procedures 1. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

### **509-304 Medical Asst Clin Procedures 1**

**4 cr**

Introduces medical assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills including screening, vital signs, patient history, minor surgery, and patient preparation for routine and specialty exams in the ambulatory care setting. Prerequisite(s): 509-302 Human Body in Health & Disease (or taken concurrently) and 501-101 Medical Terminology (or taken concurrently). Co-requisite(s): 509-303 Medical Asst Lab Procedures 1. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

### **509-305 Med Asst Lab Procedures 2**

**2 cr**

Prepares students to perform phlebotomy and CLIA waived hematology, chemistry, immunology and laboratory procedures commonly performed by medical assistants in the ambulatory care setting. Prerequisite(s): 501-101 Medical Terminology and 501-120 Medical Office Computing and 509-302 Human Body in Health & Disease and 509-303 Medical Asst Lab Procedures 1 and 509-307 Med Office Insurance & Finance and 801-195 Written Communication and (509-301 Medical Asst Admin Procedures (or taken concurrently) and 509-307 Med Office Insurance & Finance (or taken concurrently) and 509-309 Medical Law, Ethics & Profess (or taken concurrently). Co-requisite(s): 509-306 Med Asst Clin Procedures 2 and 509-310 Medical Assistant Practicum. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

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## **509-306 Med Asst Clin Procedures 2**

**3 cr**

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, assisting with emergency preparedness in an ambulatory care setting. Prerequisite(s): 501-101 Medical Terminology and 501-120 Medical Office Computing and 509-302 Human Body in Health & Disease and 509-303 Medical Asst Lab Procedures 1 and 509-304 Medical Asst Clin Procedures 1 and 801-195 Written Communication and (509-301 Medical Asst Admin Procedures (or taken concurrently) and 509-307 Med Office Insurance & Finance (or taken concurrently) and 509-309 Medical Law, Ethics & Profess (or taken concurrently)). Co-requisite(s): 509-305 Med Asst Lab Procedures 2. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

## **509-307 Med Office Insurance & Finance**

**2 cr**

Introduces medical assistant 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. Prerequisite(s): 501-120 Medical Office Computing (or taken concurrently) and 501-101 Medical Terminology and 509-302 Human Body in Health & Disease. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant, 31-509-1 Medical Assistant.

## **509-309 Medical Law, Ethics & Profess**

**2 cr**

Prepares students to display professionalism and perform within ethical and legal boundaries in the health care setting. Students maintain confidentiality, examine legal aspects of the medical record, perform quality improvement procedures, examine legal and bioethical issues, and demonstrate awareness of diversity. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant, 31-509-1 Medical Assistant, TC-509-2 Medical Office Receptionist.

## **509-310 Medical Assistant Practicum**

**3 cr**

Requires medical assistant students to integrate and apply knowledge and skills from all previous medical assistant courses in actual ambulatory health care settings. Learners 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. Prerequisite(s): 501-120 Medical Office Computing (or taken concurrently) and 501-101 Medical Terminology (or taken concurrently) and 509-301 Medical Asst Admin Procedures (or taken concurrently) and 509-302 Human Body in Health & Disease (or taken concurrently) and 509-303 Medical Asst Lab Procedures 1 (or taken concurrently) and 509-304 Medical Asst Clin Procedures 1 (or taken concurrently) and 509-305 Med Asst Lab Procedures 2 (or taken concurrently) and 509-306 Med Asst Clin Procedures 2 (or taken concurrently) and 509-307 Med Office Insurance & Finance (or taken concurrently) and 509-309 Medical Law, Ethics & Profess (or taken concurrently) and 501-308 Pharmacology for Allied Health (or taken concurrently) and 801-195 Written Communication (or taken concurrently). Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

## **512-Surgical Technician**

### **512-327 ST: Introduction**

**4 cr**

Provides the foundational knowledge of disinfection, sterilization, infection control, and asepsis. Legal and ethical issues encountered in the healthcare environment are explored. Simulated laboratory practice enables the learner to develop beginning technical skills. Prerequisite(s): (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (501-101 Medical Terminology or 530-153 Medical Terminology I). Co-requisite(s): 512-328 ST: Fundamentals 1 and 512-330 ST: Clinical 1 and 512-331A Surgical Procedures A. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

### **512-328 ST: Fundamentals 1**

**4 cr**

Includes the basic clinical skills needed by the Surgical Technologist in the scrub role. Learners develop skills in identifying basic instrumentation, supplies, drains, catheters, dressings, and sponges. Includes practice experience in creating a sterile field, draping, passing instruments and supplies, performing counts, and preparing supplies. Prerequisite(s): (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (501-101 Medical Terminology (or taken concurrently) or 530-153 Medical Terminology I (or taken concurrently)). Co-requisite(s): 512-327 ST: Introduction and 512-330 ST: Clinical 1 and 512-331A Surgical Procedures A. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

### **512-329 ST: Fundamentals 2**

**2 cr**

Builds upon and reinforces the role of the Surgical Technologist as a member of the operating room team. Discusses care of the patient before, during, and after surgery with emphasis on surgical wounds, wound closure materials, and vital signs. Includes lecture and lab experiences. Prerequisite(s): 512-328 ST: Fundamentals 1 and 512-331B Surgical Procedures B (or taken concurrently) and 512-332 ST: Clinical 2 (or taken concurrently). Co-requisite(s): 512-334 ST: Clinical 3. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

### **512-330 ST: Clinical 1**

**3 cr**

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. Prerequisite(s): (512-327 ST: Introduction (or taken concurrently) and 512-328 ST: Fundamentals 1 (or taken concurrently) and (501-101 Medical Terminology and 806-177 Gen Anatomy & Physiology)). Co-requisite(s): 512-331A Surgical Procedures A. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

### **512-331 ST: Surgical Procedures**

**4 cr**

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure. Prerequisite(s): 512-329 ST: Fundamentals 2 and 512-330 ST: Clinical 1. Co-requisite(s): 512-332 ST: Clinical 2 and 512-334 ST: Clinical 3.

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## **512-331A Surgical Procedures A**

**2 cr**

Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Incorporates integration of basic healthsciences and technical knowledge to complete a plan of action for a surgical procedure. Prerequisite(s): 501-101 Medical Terminology and 806-177 Gen Anatomy & Physiology. Co-requisite(s): 512-327 ST: Introduction and 512-328 ST: Fundamentals 1 and 512-330 ST: Clinical 1. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

## **512-331B Surgical Procedures B**

**2 cr**

Builds upon the knowledge gained in ST: 512-331A by providing further foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure. Prerequisite(s): 512-327 ST: Introduction and 512-328 ST: Fundamentals 1 and 512-331A Surgical Procedures A and 512-330 ST: Clinical 1 and 512-332 ST: Clinical 2 (or taken concurrently) and 512-334 ST: Clinical 3 (or taken concurrently) and 512-329 ST: Fundamentals 2 (or taken concurrently) and 512-330 ST: Clinical 1.

## **512-332 ST: Clinical 2**

**4 cr**

Further experience in a clinical setting allows the student to continue to improve technical skills while accepting more responsibilities during surgical procedures. Prerequisite(s): 512-329 ST: Fundamentals 2 (or taken concurrently) and 512-330 ST: Clinical 1. Co-requisite(s): 512-331B Surgical Procedures B and 512-334 ST: Clinical 3.

## **512-334 ST: Clinical 3**

**4 cr**

Enhances the student's technical experience and employee skills. Serves as a transition between student and employee. Application of advanced skills for the entry-level surgical technologist in the clinical setting. Prerequisite(s): 512-331A Surgical Procedures A and 512-332 ST: Clinical 2 (or taken concurrently) and 801-351 Applied Communication (or taken concurrently).

## **513-Laboratory Assistant**

### **513-109 Blood Bank**

**4 cr**

Focuses on blood banking concepts and procedures including blood typing, compatibility testing, work ups for adverse reaction to transfusions, disease states and donor activities. Prerequisite(s): 513-110 Basic Lab Skills and 513-113 QA Lab Math and 513-115 Basic Immunology Concepts.

### **513-110 Basic Lab Skills**

**1 cr**

This course explores health career options and the principles and procedures of basic tests performed in the clinical laboratory. You will utilize medical terminology and general laboratory equipment. You will follow required safety and infection control procedures and perform simple laboratory tests. Co-requisite(s): 513-113 QA Lab Math. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

### **513-111 Phlebotomy**

**2 cr**

This course provides opportunities for learners to perform routine venipuncture, routine capillary puncture, and special collection procedures.

### **513-113 QA Lab Math**

**1 cr**

This course focuses on performing the mathematical calculations routinely used in laboratory settings. You will explore the concepts of quality control and quality assurance in the laboratory. You will review regulatory compliance requirements and certification and continuing education programs. Co-requisite(s): 513-110 Basic Lab Skills.

### **513-114 Urinalysis**

**2 cr**

This course prepares you to perform a complete urinalysis which includes physical, chemical, and microscopic analysis. You will explore renal physiology and correlate urinalysis results with clinical conditions. Prerequisite(s): 513-110 Basic Lab Skills and 513-113 QA Lab Math.

### **513-115 Basic Immunology Concepts**

**2 cr**

This course provides an overview of the immune system including laboratory testing methods for diagnosis of immune system disorders, viral, and bacterial infections. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

### **513-120 Basic Hematology**

**3 cr**

This course covers the theory and principles of blood cell production and function and introduces you to basic practices and procedures in the hematology laboratory. Prerequisite(s): 513-110 Basic Lab Skills and 513-111 Phlebotomy and 513-113 QA Lab Math and 513-115 Basic Immunology Concepts. Co-requisite(s): 513-121 Coagulation.

### **513-121 Coagulation**

**1 cr**

This course introduces the theory and principles of coagulation and explores mechanisms involved in coagulation disorders. Emphasis is placed upon laboratory techniques used to diagnose disease and monitor treatment. Prerequisite(s): 513-110 Basic Lab Skills and 513-111 Phlebotomy and 513-113 QA Lab Math and 513-115 Basic Immunology Concepts. Co-requisite(s): 513-120 Basic Hematology.

### **513-128 Sexually Transmitted Diseases**

**3 cr**

Cause, detection, transmission, prevention, treatment, complications, and prognosis of sexually transmitted diseases, including syphilis, gonorrhea, non-gonococcal urethritis, herpes, chancroid, and AIDS.

### **513-130 Advanced Hematology**

**2 cr**

This course explores mechanisms involved in the development of hematological disorders. Emphasis is placed upon laboratory techniques used to diagnose disorders and monitor treatment. Prerequisite(s): 513-120 Basic Hematology and 513-121 Coagulation. Co-requisite(s): 513-151 Clinical Experience 1.

### **513-131 Clinical Chemistry 1**

**3 cr**

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, lipids, proteins, renal function, and blood gas analysis. Prerequisite(s): 513-114 Urinalysis and (806-186 Intro to Biochemistry

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or 806-101 Biochemistry) and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I).

## **513-132 Clinical Chemistry 2** **2 cr**

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. Co-requisite(s): 513-131 Clinical Chemistry 1.

## **513-133 Clinical Microbiology** **4 cr**

This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling, and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. Prerequisite(s): 806-197 Microbiology. Co-requisite(s): 513-140 Advanced Microbiology. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **513-140 Advanced Microbiology** **2 cr**

This course provides an overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing, and identification will be discussed. Prerequisite(s): 806-197 Microbiology. Co-requisite(s): 513-133 Clinical Microbiology.

## **513-142 Clinical Exp 1** **4 cr**

This course provides the learner with opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting including the operation of state of the art instrumentation and the use of laboratory information systems to report results. The fourteen competencies will be divided between Clinical Experience 1, Clinical Experience 2, and Clinical Experience 3. Order that competencies will be covered vary based on staffing at clinical sites. Prerequisite(s): 513-131 Clinical Chemistry 1 and 513-132 Clinical Chemistry 2 and 513-145 MLT Seminar. Co-requisite(s): 513-130 Advanced Hematology and 513-143 Clinical Exp 2 and 513-144 Clinical Experience 3. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **513-143 Clinical Exp 2** **4 cr**

This course provides the learner with opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting including the operation of state of the art instrumentation and the use of laboratory information systems to report results. The fourteen competencies will be divided between Clinical Experience 1, Clinical Experience 2, and Clinical Experience 3. Order that competencies will be covered vary based on staffing at clinical sites. Co-requisite(s): 513-130 Advanced Hematology and 513-142 Clinical Exp 1 and 513-144 Clinical Experience 3.

## **513-144 Clinical Experience 3** **4 cr**

This course provides the learner with opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting including the operation of state of the art instrumentation and the

use of laboratory information systems to report results. The fourteen competencies will be divided between Clinical Experience 1, Clinical Experience 2, and Clinical Experience 3. Order that competencies will be covered may vary based on staffing at clinical sites. Co-requisite(s): 513-130 Advanced Hematology and 513-151 Clinical Experience 1 and 513-152 Clinical Experience 2. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **513-145 MLT Seminar** **3 cr**

Issues related to working in a health care setting; certification, professional societies, patient rights, medical/legal issues and ethics. Must be CLT 3rd semester status. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **513-147 Phlebotomy Clinical** **1 cr**

Practical training in phlebotomy skills at a clinical site. Successful completion of the Phlebotomy course, as well as the consent of the Phlebotomy instructor is required. Also, the student must be a high school graduate (or equivalent) to register for this course. Students must complete a physical exam and a criminal background check before registering. This course is not eligible for financial aid. Prerequisite(s): 513-111 Phlebotomy.

## **513-151 Clinical Experience 1** **3 cr**

This course provides the learner with opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting including the operation of state of the art instrumentation and the use of laboratory information systems to report results. The fourteen competencies will be divided between Clinical Experience 1, Clinical Experience 2, and Clinical Experience 3. Order that competencies will be covered may vary based on staffing at clinical sites. Prerequisite(s): 513-131 Clinical Chemistry 1 and 513-132 Clinical Chemistry 2 and 513-145 MLT Seminar. Co-requisite(s): 513-130 Advanced Hematology and 513-144 Clinical Experience 3 and 513-152 Clinical Experience 2. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **513-152 Clinical Experience 2** **4 cr**

This course provides the learner with opportunities to practice the principles and procedures of laboratory medicine in a clinical laboratory setting including the operation of state of the art instrumentation and the use of laboratory information systems to report results. The fourteen competencies will be divided between Clinical Experience 1, Clinical Experience 2, and Clinical Experience 3. Order that competencies will be covered may vary based on staffing at clinical sites. Prerequisite(s): 513-131 Clinical Chemistry 1 and 513-132 Clinical Chemistry 2 and 513-145 MLT Seminar. Co-requisite(s): 513-130 Advanced Hematology and 513-144 Clinical Experience 3 and 513-151 Clinical Experience 1. Restricted to students admitted to the following program(s): 10-513-1 Medical Laboratory Technician.

## **515-Respiratory Care Practitioner**

### **515-111 Respiratory Survey** **3 cr**

This course will introduce the student to issues facing health care workers. Topics will include ethics, confidentiality, and professionalism. Health care structure and economics will also be introduced. Other topics

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may include professional licensure, legal aspects of health care, and patient communication. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-112 Respiratory Airway Management** 2 cr  
Provides a comprehensive exploration of airway management concepts and skills. Prerequisite(s): 515-172 Respiratory Therapeutics 2 and 515-174 Respiratory/Cardiac Physiology and 515-175 Respiratory Clinical 1 and 806-197 Microbiology. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-113 Respiratory Life Support** 3 cr  
Focuses on management of adult ventilatory support. Prerequisite(s): 515-172 Respiratory Therapeutics 2 and 515-175 Respiratory Clinical 1 and 515-112 Respiratory Airway Management (or taken concurrently). Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-145 Adv Respiratory Care Topics** 2 cr  
A course to consider advanced topics and perform examination review for the RC students. Prerequisite(s): 515-178 Respiratory Clinical 2 and 515-179 Respiratory Clinical 3 and 515-112 Respiratory Airway Management. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-171 Respiratory Therapeutics 1** 3 cr  
Introduces the topics of medical gas administration and humidity and aerosol therapy. The learner will apply physics, math, and patient assessment concepts to oxygen, aerosol and humidity therapy. Prerequisite(s): 515-111 Respiratory Survey (or taken concurrently) and 806-177 Gen Anatomy & Physiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-172 Respiratory Therapeutics 2** 3 cr  
Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy, and pulmonary rehabilitation. Prerequisite(s): 515-171 Respiratory Therapeutics 1 (or taken concurrently).

**515-173 Respiratory Pharmacology** 3 cr  
Examines basic pharmacology principles, drug dosage, and calculations. Medications for inhalation including mucolytics, bronchodilators, and anti-inflammatories. Also includes cardiac drugs, anesthetic drugs, neuromuscular blockers, and antimicrobials. Prerequisite(s): 806-177 Gen Anatomy & Physiology and 515-111 Respiratory Survey.

**515-174 Respiratory/Cardiac Physiology** 3 cr  
Provides the student with an in-depth knowledge of the structure and function of the respiratory and circulatory systems necessary to function as a competent Respiratory Therapist. Prerequisite(s): 806-177 Gen Anatomy & Physiology. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-175 Respiratory Clinical 1** 2 cr  
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. Prerequisite(s): (501-101 Medical Terminology (or taken concurrently) and 515-171 Respiratory Therapeutics 1 (or taken concurrently) and 515-172 Respiratory Therapeutics 2 (or taken concurrently) and 515-174 Respiratory/Cardiac Physiology (or taken concurrently) and (515-173 Respiratory Pharmacology and 515-176 Respiratory Disease and 515-111 Respiratory Survey). Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-176 Respiratory Disease** 3 cr  
Exploration of signs, symptoms, causes, progression, and treatment of obstructive, restrictive and infectious diseases or disorders of the body that affect the respiratory system. Prerequisite(s): 806-177 Gen Anatomy & Physiology and 515-111 Respiratory Survey.

**515-178 Respiratory Clinical 2** 3 cr  
Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 12 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): 515-175 Respiratory Clinical 1 and 806-197 Microbiology. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-179 Respiratory Clinical 3** 3 cr  
Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 19 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): 515-178 Respiratory Clinical 2 (or taken concurrently). Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-180 Respiratory Neo/Peds Care** 2 cr  
Provides a comprehensive orientation to the field of neonatal and pediatric respiratory care to include fetal development, birth, neonatal physiology, pulmonary dynamics, abnormal cardiopulmonary conditions, diseases, noninvasive and invasive therapeutic interventions. Co-requisite(s): 515-112 Respiratory Airway Management and 515-113 Respiratory Life Support. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-181 Respiratory/Cardio Diagnostics** 3 cr  
Advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine. Prerequisite(s): 515-113 Respiratory Life Support and 515-176 Respiratory Disease. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

**515-182 Respiratory Clinical 4** 3 cr

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Continued development of Respiratory Therapy clinical skills including respiratory therapeutics. Focuses on monitoring, analyzing, and interpreting data to make appropriate modifications in patient care. This course includes the complete program competency list. At the completion of this clinical, learners must demonstrate competence in a minimum of 26 (required and/or simulated) competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): 515-179 Respiratory Clinical 3 or 515-112 Respiratory Airway Management. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

## **515-183 Respiratory Clinical 5** **3 cr**

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, learners must demonstrate competence in all of the required and required/simulated competencies. The instructor may identify specific competencies to be addressed during this clinical. Prerequisite(s): 515-182 Respiratory Clinical 4 (or taken concurrently). Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapy.

## **517-Renal Dialysis**

### **517-302 Renal Failure & Support Ther** **3 cr**

This course explores the pathological changes and/or conditions of the renal system and the effects of these changes on the dialysis patient. Prerequisite(s): 517-321 Principles of Renal Dialysis I. Co-requisite(s): 517-304 Hemodialysis Lab Procedures and 517-322 Principles of Renal Dialysis 2 and 517-323 Clinical Practicum 1 and 517-324 Clinical Practicum 2.

### **517-304 Hemodialysis Lab Procedures** **1 cr**

This laboratory course provides the student with hands-on experience in learning the technical skills required to function as a Renal Dialysis Technician. Prerequisite(s): 517-321 Principles of Renal Dialysis I. Co-requisite(s): 517-302 Renal Failure & Support Ther and 517-322 Principles of Renal Dialysis 2 and 517-323 Clinical Practicum 1 and 517-324 Clinical Practicum 2.

### **517-320 Intro to Renal Dialysis** **3 cr**

This course introduces the student to health care concepts, basic patient care skills, infection control procedures, chronic illness and the grieving process, stress management, and related interpersonal skills. Prerequisite(s): 501-101 Medical Terminology (or taken concurrently) and (801-196 Oral/Interpersonal Comm (or taken concurrently) or 801-351 Applied Communication (or taken concurrently) and (809-198 Intro to Psychology (or taken concurrently) or 809-199 Psychology of Human Relations (or taken concurrently). Co-requisite(s): 517-321 Principles of Renal Dialysis I. Restricted to students admitted to the following program(s): 31-517-1 Renal Dialysis Technician.

### **517-321 Principles of Renal Dialysis I** **4 cr**

This course introduces the student to normal renal anatomy and physiology, renal failure, dialysis, vascular access, and basic laboratory concepts. Prerequisite(s): 517-320 Intro to Renal Dialysis (or taken concurrently). Restricted to students admitted to the following program(s): 31-517-1 Renal Dialysis Technician.

### **517-322 Principles of Renal Dialysis 2** **3 cr**

This course provides the student with in-depth applications of the principles and procedures of hemodialysis. Prerequisite(s): 517-321 Principles of Renal Dialysis I. Co-requisite(s): 517-302 Renal Failure & Support Ther and 517-304 Hemodialysis Lab Procedures and 517-323 Clinical Practicum 1 and 517-324 Clinical Practicum 2.

### **517-323 Clinical Practicum 1** **2 cr**

This course focuses on development and improvement of skills in assigned dialysis facilities. Prerequisite(s): 517-321 Principles of Renal Dialysis I. Co-requisite(s): 517-302 Renal Failure & Support Ther and 517-304 Hemodialysis Lab Procedures and 517-322 Principles of Renal Dialysis 2 and 517-324 Clinical Practicum 2.

### **517-324 Clinical Practicum 2** **3 cr**

This course focuses on development and improvement of skills in assigned dialysis facilities. Prerequisite(s): 517-323 Clinical Practicum 1 (or taken concurrently).

## **524-Physical Therapy Assistant**

### **524-138 PTA Kinesiology 1** **3 cr**

Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant in addition to assessing range of motion and strength. Prerequisite(s): 806-177 Gen Anatomy & Physiology (or taken concurrently). Co-requisite(s): 524-139 PTA Patient Interventions and 524-140 PTA Professional Issues 1. Restricted to students admitted to the following program(s): 10-524-1 Physical Therapist Assistant.

### **524-139 PTA Patient Interventions** **4 cr**

An introduction to basic skills and physical therapy interventions performed by the physical therapist assistant. Co-requisite(s): 524-138 PTA Kinesiology 1 and 524-140 PTA Professional Issues 1. Restricted to students admitted to the following program(s): 10-524-1 Physical Therapist Assistant.

### **524-140 PTA Professional Issues 1** **2 cr**

Introduces the history and development of the physical therapy program, legal and ethical issues, the interdisciplinary health care team, and professional communication skills. Co-requisite(s): 524-138 PTA Kinesiology 1 and 524-139 PTA Patient Interventions. Restricted to students admitted to the following program(s): 10-524-1 Physical Therapist Assistant.

### **524-141 PTA Kinesiology 2** **4 cr**

Applies basic principles from PTA Kinesiology 1 to the axial skeleton and upper quadrant including location and identification of muscles, joints and other landmarks. Assess range of motion and strength of the axial skeleton and upper quadrant. Integrate analysis of posture and gait. Prerequisite(s): 524-138 PTA Kinesiology 1 and 524-139 PTA Patient Interventions and 524-140 PTA Professional Issues 1 and 806-177 Gen Anatomy & Physiology. Co-requisite(s): 524-142 PTA Therapeutic Exercise and 524-143 PTA Therapeutic Modalities.

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**524-142 PTA Therapeutic Exercise** 3 cr  
Provides instruction on the implementation of a variety of therapeutic exercise principles. Learners implement, educate, adapt, and assess responses to therapeutic exercises. Prerequisite(s): 524-138 PTA Kinesiology 1 (or taken concurrently). Co-requisite(s): 524-141 PTA Kinesiology 2 and 524-143 PTA Therapeutic Modalities.

**524-143 PTA Therapeutic Modalities** 4 cr  
Develops the knowledge and technical skills necessary to perform numerous therapeutic modalities likely to be utilized as a PTA. Co-requisite(s): 524-141 PTA Kinesiology 2 and 524-142 PTA Therapeutic Exercise.

**524-144 PTA Princ of Neuro Rehab** 4 cr  
Integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment. Prerequisite(s): 524-141 PTA Kinesiology 2 and 524-142 PTA Therapeutic Exercise and 524-143 PTA Therapeutic Modalities. Co-requisite(s): 524-145 PTA Princ of Musculo Rehab and 524-146 PTA Cardio & Integ Mgmt and 524-147 PTA Clinical Practice 1.

**524-145 PTA Princ of Musculo Rehab** 4 cr  
Integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment. Prerequisite(s): 524-139 PTA Patient Interventions and 524-141 PTA Kinesiology 2 and 524-142 PTA Therapeutic Exercise. Co-requisite(s): 524-144 PTA Princ of Neuro Rehab and 524-146 PTA Cardio & Integ Mgmt and 524-147 PTA Clinical Practice 1.

**524-146 PTA Cardio & Integ Mgmt** 3 cr  
Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment. Prerequisite(s): 524-139 PTA Patient Interventions and 524-141 PTA Kinesiology 2 and 524-142 PTA Therapeutic Exercise. Co-requisite(s): 524-144 PTA Princ of Neuro Rehab and 524-145 PTA Princ of Musculo Rehab and 524-147 PTA Clinical Practice 1.

**524-147 PTA Clinical Practice 1** 2 cr  
Provides a part-time clinical experience to apply foundational elements, knowledge, and technical skills pertinent to physical therapy practice.

Prerequisite(s): 524-141 PTA Kinesiology 2 and 524-142 PTA Therapeutic Exercise. Co-requisite(s): 524-144 PTA Princ of Neuro Rehab and 524-145 PTA Princ of Musculo Rehab and 524-146 PTA Cardio & Integ Mgmt.

**524-148 PTA Clinical Practice 2** 3 cr  
Provides another part-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): 524-147 PTA Clinical Practice 1. Co-requisite(s): 524-149 PTA Rehab Across the Lifespan and 524-150 PTA Professional Issues 2 and 524-151 PTA Clinical Practice 3.

**524-149 PTA Rehab Across the Lifespan** 2 cr  
A capstone course that integrates concepts of pathology, physical therapy interventions and data collection across the lifespan. In addition, the

PTA's role in health, wellness and prevention, reintegration, and physical therapy interventions for special patient populations will be addressed. Prerequisite(s): 524-147 PTA Clinical Practice 1. Co-requisite(s): 524-148 PTA Clinical Practice 2 and 524-150 PTA Professional Issues 2 and 524-151 PTA Clinical Practice 3.

**524-150 PTA Professional Issues 2** 2 cr  
Incorporates professional development, advanced legal and ethical issues, healthcare management and administration, and further development of professional communication strategies. Prerequisite(s): 524-147 PTA Clinical Practice 1. Co-requisite(s): 524-148 PTA Clinical Practice 2 and 524-149 PTA Rehab Across the Lifespan and 524-151 PTA Clinical Practice 3.

**524-151 PTA Clinical Practice 3** 5 cr  
Provides a full-time clinical experience to apply foundational elements, knowledge, and technical skills required of the entry-level physical therapist assistant in various practice settings. Prerequisite(s): 524-147 PTA Clinical Practice 1. Co-requisite(s): 524-148 PTA Clinical Practice 2 and 524-149 PTA Rehab Across the Lifespan and 524-150 PTA Professional Issues 2.

## 526-Radiologic Technology

**526-149 Radiographic Procedures 1** 5 cr  
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. Prerequisite(s): 806-177 Gen Anatomy & Physiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-158 Introduction to Radiography** 3 cr  
Introduces students to the role of radiography in health care. Students apply medical terminology, legal and ethical considerations to patient care and pharmacology in the radiologic sciences. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-159 Radiographic Imaging 1** 3 cr  
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. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-168 Radiography Clinical 1** 2 cr  
This beginning level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): 806-177 Gen Anatomy & Physiology (or taken concurrently). Co-requisite(s): 526-149 Radiographic Procedures 1 and 526-158 Introduction to Radiography and 526-159 Radiographic Imaging 1. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

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**526-170 Radiographic Imaging 2** **3 cr**  
Prepares radiography students to apply advanced radiographic principles to the production of radiographic images. Students analyze exposure factor considerations, differentiate between film and exposure latitude, and use beam-restricting devices. Prerequisite(s): 526-159 Radiographic Imaging 1. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-174 ARRT Certification Seminar** **2 cr**  
Provides preparation for the for the national certification exam prepared by the American Registry of Radiologic Technologists. Emphasis is placed on the weak areas of the individual students. Simulated registry examinations are utilized. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**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. Prerequisite(s): 526-191 Radiographic Procedures 2. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-190 Radiography Clinical 5** **2 cr**  
This clinical course prepares radiography students to perform radiologic procedures on patients with some supervision. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. Prerequisite(s): 526-199 Radiography Clinical 4. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-191 Radiographic Procedures 2** **5 cr**  
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. Prerequisite(s): 526-149 Radiographic Procedures 1 and 806-177 Gen Anatomy & Physiology. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-192 Radiography Clinical 2** **3 cr**  
This second level clinical course prepares radiography students to perform radiologic procedures on patients with extensive supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. An emphasis of the course is the development of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): 526-168 Radiography Clinical 1. Co-requisite(s): 526-170 Radiographic Imaging 2 and 526-191 Radiographic Procedures 2. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-193 Radiography Clinical 3** **3 cr**  
This third level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal

and ethical guidelines. An emphasis of the course is the demonstration of communication and critical thinking skills appropriate to the clinical setting. Prerequisite(s): 526-192 Radiography Clinical 2.

**526-194 Imaging Equipment Operation** **3 cr**  
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(s): 526-158 Introduction to Radiography and 526-159 Radiographic Imaging 1 (or taken concurrently). Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-195 Radiographic Quality Analysis** **2 cr**  
Prepares radiography students to analyze radiographic images for quality. Students apply quality control tests to determine the causes of image problems including equipment malfunctions and procedural errors. Prerequisite(s): 526-170 Radiographic Imaging 2 and 526-191 Radiographic Procedures 2. Co-requisite(s): 526-189 Radiographic Pathology. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-196 Modalities** **3 cr**  
Introduces radiography students to other types of imaging including ultrasound, MRI, mammography, and bone density scans. Students analyze the role of various imaging technologies in health care. Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-197 Radiation Protection & Biology** **3 cr**  
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. Prerequisite(s): 526-158 Introduction to Radiography and 526-194 Imaging Equipment Operation and 526-170 Radiographic Imaging 2 (or taken concurrently). Restricted to students admitted to the following program(s): 10-526-1 Radiography.

**526-198 Radiography Clinical Practice6** **2 cr**  
This final clinical course requires students to integrate and apply all knowledge learned in previous courses to the production of high quality radiographs in the clinical setting. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. Prerequisite(s): 526-190 Radiography Clinical 5.

**526-199 Radiography Clinical 4** **3 cr**  
This fourth level clinical course prepares radiography students to perform radiologic procedures on patients with supervision and direction. Students apply radiation protection and standard precautions in the production of radiographs in a health care setting while adhering to legal and ethical guidelines. Students are encouraged to demonstrate independent judgment in the performance of clinical competencies. Prerequisite(s): 526-193 Radiography Clinical 3.

**526-200 Intro to DMS** **3 cr**  
This course introduces learners to the field of Diagnostic Medical

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Sonography. Explores the duties and functions of the Diagnostic Medical Sonographer as well as the historical background. Learners examine the other imaging modalities as they relate to Sonography. Includes principles of patient care and legal and ethical issues related to Sonography. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-203 Scanning With Proficiency 1 cr**  
Prepares learners for the rigors of clinical imaging by performing timed abdominal and gynecological competencies. Co-requisite(s): 526-212 OB/GYN Sonography 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-207 Abdominal Sonography 4 cr**  
Prepares learners to perform ultrasounds of the abdominal organs including liver, gallbladder, biliary tree, pancreas, spleen, urinary tract, aorta and retroperitoneum. Emphasis is placed on recognizing the anatomy and pathology of the abdominal organs. Practice scan sessions included. Prerequisite(s): (501-101 Medical Terminology or 530-153 Medical Terminology I) and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (806-179 Adv Anatomy & Physiology (or taken concurrently) or 806-141 Anatomy & Physiology II).

**526-208 OB/GYN Sonography 1 3 cr**  
Prepares learners to perform ultrasounds of the nonpregnant uterus and the first trimester pregnancy. Explores the anatomy, physiology, and pathology of the female reproductive system as well as intrauterine and ectopic pregnancies. Prerequisite(s): (501-101 Medical Terminology or 530-153 Medical Terminology I) and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (806-179 Adv Anatomy & Physiology (or taken concurrently) or 806-141 Anatomy & Physiology II).

**526-209 DMS Clinical Experience 1 2 cr**  
Clinical 1 is a blended course. During this 8 week experience the learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on learner management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. Areas of concentration include sonography of the liver, gallbladder/biliary tract, pancreas, kidneys, retroperitoneum and non-pregnant pelvic sonography both transabdominally and edovaginally. The student will apply his/her knowledge and experience in a working clinical environment. Sonographic technique, image acquisition, clinical correlation, and patient care skills are practiced under direct guidance of a registered staff sonographer. The student will become familiar with the organizational process and policies of the department. Students should strive to obtain competency in the areas of abdominal and pelvic scanning. Prerequisite(s): 526-212 OB/GYN Sonography 2. Co-requisite(s): 526-226 DMS Clinical Experience 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-210 Cross Sectional Anatomy 2 cr**  
Introduces cross sectional anatomy as related to Diagnostic Medical

Sonography. Includes correlating images from other imaging modalities. Prerequisite(s): 526-207 Abdominal Sonography (or taken concurrently) and 526-208 OB/GYN Sonography 1 (or taken concurrently). Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography, 10-526-1 Radiography.

**526-211 Superficial Sonography 2 cr**  
Investigates superficial structure imaging. Includes anatomy, pathophysiology, and sonographic evaluation. Prepares learner to perform ultrasounds of the thyroid, breast, male reproductive system, musculoskeletal system, and GI tract. Prerequisite(s): 526-207 Abdominal Sonography and 526-208 OB/GYN Sonography 1 and 526-210 Cross Sectional Anatomy. Co-requisite(s): 526-222 Sonography Physics 2

**526-212 OB/GYN Sonography 2 3 cr**  
Prepares learners to perform ultrasounds of the second and third trimester pregnancy. Explores the anatomy, physiology, and pathology of the female pelvis and the developing fetus. Learners will be exposed to interventional procedures related to pregnancy. Prerequisite(s): 526-208 OB/GYN Sonography 1. Co-requisite(s): 526-203 Scanning With Proficiency and 526-222 Sonography Physics 2.

**526-213 DMS Clinical Experience 2 4 cr**  
This clinical course is a blended course. During this 8 week experience the learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on the learner management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. The learner will concentrate efforts on scanning first, second, and third trimester obstetrics as well as provide further opportunity to mature and expand the skills previously acquired in a clinical setting. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Prerequisite(s): 526-209 DMS Clinical Experience 1 (or taken concurrently).

**526-214 Cardiac & Vascular, Intro to 3 cr**  
Introduces the uses of cardiac and vascular sonography. Explores the differences from the general concentration of ultrasound. Learners outline the components of cardiac and vascular exams and learn to correlate results with other diagnostic procedures. Prerequisite(s): 526-207 Abdominal Sonography and 526-208 OB/GYN Sonography 1. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-215 DMS Clinical Experience 3 4 cr**  
This course is the final clinical course of the program. It is an 11 week blended course. The learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on the learner management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. All imaging skills will be at entry level employment by the end of this experience. The student learner will be

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capable of independently obtaining diagnostic quality exams in a time efficient manner for all structures previously practiced. Clinical 3 serves as a transition from student intern to employee. Prerequisite(s): 526-226 DMS Clinical Experience 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-217 Registry Review** **1 cr**  
Prepares students to take the ARDMS examinations. Provides a review of the Diagnostic Medical Sonography competencies.

**526-219 Vascular Sonography 2** **3 cr**  
Students will learn the theory and practice in the sonographic performance of carotid duplex and venous Doppler examinations. Furthermore, students will study the role of sonography in surgery and validation/research. Prerequisite(s): 526-218 Vascular Sonography 1.

**526-221 Sonography Physics 1** **3 cr**  
Introduces physics and instrumentation relevant to diagnostic medical sonography. Learners explore how principles of sound propagation in tissues create a sonographic image. Prerequisite(s): 526-200 Intro to DMS. Co-requisite(s): 526-223 Vascular Imaging 1. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-222 Sonography Physics 2** **2 cr**  
Continues the study of physics and instrumentation relevant to diagnostic medical sonography. The laboratory component of this course introduces the student to the concepts of ultrasound instrumentation, and introduction to ultrasonic scanning technique, and maintenance of ultrasound equipment. Prerequisite(s): 526-221 Sonography Physics 1. Co-requisite(s): 526-211 Superficial Sonography and 526-212 OB/GYN Sonography 2 and 526-224 Vascular Imaging 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-223 Vascular Imaging 1** **3 cr**  
Introduces the principles of vascular sonographic imaging. Learners perform a variety of peripheral vascular arterial and venous duplex exams. Prerequisite(s): 526-200 Intro to DMS. Co-requisite(s): 526-221 Sonography Physics 1. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-224 Vascular Imaging 2** **3 cr**  
Prepares learners to perform abdominal vascular and physiologic peripheral vascular exams. Prerequisite(s): 526-223 Vascular Imaging 1. Co-requisite(s): 526-222 Sonography Physics 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

**526-226 DMS Clinical Experience 2** **4 cr**  
This clinical course is a blended course. During this 8 week experience the learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional Course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on the learning management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. The learner will concentrate efforts on

scanning first, second, and trimester obstetrics as well as vascular and superficial structures imaging. Clinical 2 will provide further opportunity to mature and expand the skills previously acquired in a clinical setting. Students begin to function as team members under the guidance of the instructor and authorized clinical personnel. Co-requisite(s): 526-209 DMS Clinical Experience 1. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

## 530-Medical Records

**530-103 Medical Insurance & Billing** **2 cr**  
The focus of this course is medical insurance billing and claims processing. Requirements for processing claims from an insurance company perspective and the medical facility perspective are addressed. Specific insurance types include managed care organizations, Medicare, Medical Assistance, and commercial payers. An overview of CPT and ICD coding systems is provided. Fraud and abuse initiatives and compliance requirements are reviewed.

**530-150 Applied HIM Technology** **3 cr**  
A project-based course designed to align with current practices and the evolving roles in HIM. Learners will apply changes in healthcare legislation, healthcare regulatory requirements, and computer technology to the collection, storage, retrieval, analysis, reporting, and management of healthcare data. Includes further application of skills in data analysis, critical thinking, and project management. Prerequisite(s): 530-196 Professional Practice 1. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-160 Healthcare Informatics** **4 cr**  
Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business, and health information software applications. Learners will develop skills to assist in information systems design and implementation. Prerequisite(s): 501-130 Healthcare IT and 530-176 Health Data Management. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-161 Health Quality Management** **3 cr**  
Explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment, and improvement, required monitoring activities, risk management and patient safety, utilization management, and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data. Prerequisite(s): 530-177 Healthcare Stats & Research. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-176 Health Data Management** **2 cr**  
Introduces the use and structure of health care data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing. Prerequisite(s): 530-181 Intro to the Health Record (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

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**530-177 Healthcare Stats & Research** 2 cr  
Explores the management of medical data for statistical purposes. Focuses on descriptive statistics, including definitions, collection, calculation, compilation, and display of numerical data. Vital statistics, registries, and research are examined. Prerequisite(s): 530-176 Health Data Management and (804-123 Math w Business Apps or 804-106 Intro to College Math). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-178 Healthcare Law & Ethics** 2 cr  
Examines regulations for the content, use, confidentiality, disclosure, and retention of health information. An overview of the legal system and ethical issues are addressed. Prerequisite(s): 530-176 Health Data Management. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-181 Intro to the Health Record** 1 cr  
Prepares learners to illustrate the flow of health information in various health care delivery systems and within the health information department. Prepares learners to retrieve data from health records. Professional ethics, confidentiality and security of information are emphasized. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-182 Human Disease for Hlth Profes** 3 cr  
This course focuses on the common diseases of each body system as encountered in all types of health care settings by health information professionals. Emphasis is placed on understanding the etiology (cause), signs and symptoms, diagnostic tests, and treatment (including pharmacologic) of each disease. Prerequisite(s): (501-101 Medical Terminology (or taken concurrently) or 530-153 Medical Terminology I (or taken concurrently) and (806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I (or taken concurrently)).

**530-184 CPT Coding** 3 cr  
Prepares learners to assign CPT codes, supported by medical documentation, with entry level proficiency. Learners apply CPT instructional notations, conventions, rules, and official coding guidelines when assigning CPT codes to case studies and actual medical record documentation. Prerequisite(s): 530-176 Health Data Management and (501-101 Medical Terminology (or taken concurrently) and 530-181 Intro to the Health Record (or taken concurrently) and 530-182 Human Disease for Hlth Profes (or taken concurrently) and 806-177 Gen Anatomy & Physiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-185 Healthcare Reimbursement** 2 cr  
This course prepares learners to compare and contrast health care payers, illustrate the reimbursement cycle, and to comply with regulations related to fraud and abuse. Learners assign Diagnosis Related Groups (DRGs), Ambulatory Payment Classifications (APCs), and Resource Utilization Groups (RUGs) with entry level proficiency using computerized encoding and grouping software. Prerequisite(s): 530-184 CPT Coding and 530-197 ICD Diagnosis Coding and 530-199 ICD Procedure Coding. Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-194 HIM Organizational Resources** 2 cr  
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(s): 530-196 Professional Practice 1 (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-195 Applied Coding** 2 cr  
Prepares students to assign ICD and CPT/HCPCS codes supported by medical documentation with intermediate level of proficiency. Students will prepare appropriate physician queries in accordance with compliance guidelines and will assign codes to optimize appropriate reimbursement. Prerequisite(s): 530-197 ICD Diagnosis Coding and 530-199 ICD Procedure Coding and 530-184 CPT Coding and 530-185 Healthcare Reimbursement (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-196 Professional Practice 1** 3 cr  
The first of a two-semester sequence of supervised clinical experiences in healthcare facilities. This course provides application of previously acquired skills and knowledge with clinical experiences in the technical procedures of health record systems and discussion of clinical situations. Prerequisite(s): 530-178 Healthcare Law & Ethics and 530-184 CPT Coding and 530-177 Healthcare Stats & Research (or taken concurrently) and 530-185 Healthcare Reimbursement (or taken concurrently) and 530-160 Healthcare Informatics (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-197 ICD Diagnosis Coding** 3 cr  
Prepares students to assign ICD diagnosis codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD diagnosis codes to case studies and actual medical record documentation. Prerequisite(s): 530-176 Health Data Management and (501-101 Medical Terminology (or taken concurrently) and 530-181 Intro to the Health Record (or taken concurrently) and 530-182 Human Disease for Hlth Profes (or taken concurrently) and 806-177 Gen Anatomy & Physiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-198 Professional Practice 2** 3 cr  
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 pre-graduation activities. Prerequisite(s): 530-196 Professional Practice 1 and 530-150 Applied HIM Technology (or taken concurrently) and 530-161 Health Quality Management (or taken concurrently) and 530-194 HIM Organizational Resources (or taken concurrently) and 530-195 Applied Coding (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

**530-199 ICD Procedure Coding** 2 cr  
Prepares students to assign ICD procedure codes supported by medical

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documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation. Prerequisite(s): 530-176 Health Data Management and 501-101 Medical Terminology (or taken concurrently) and 806-177 Gen Anatomy & Physiology (or taken concurrently) and 530-181 Intro to the Health Record (or taken concurrently) and 530-182 Human Disease for Hlth Profes (or taken concurrently). Restricted to students admitted to the following program(s): 10-530-1 Health Information Technology.

## 531-Emergency Medical Service

### 531-110 Emergency Medical Technician 5 cr

This course prepares students for all aspects of emergency medical care, both medical and trauma situations, sanctioned by the Wisconsin Division of Health, at the basic level. Following the most current Wisconsin Revision of the National Standard Curriculum, this course includes didactic and practical skill information in the following areas: legal aspects, anatomy and physiology, patient assessment, critical thinking skills, airway adjuncts, fractures and dislocations, spinal injuries, soft tissue wounds, pharmacology, stroke, cardiac, diabetic, respiratory, altered mental status, pediatric, geriatric, ambulance operations, and triage. A student should be prepared to obtain 100 percent proficiency in all areas through punctuality, attendance, completion of assignments, class participation, and full cooperation with the instructor. Prerequisite: American Heart Association Healthcare Provider CPR (531-454) or American Red Cross CPR for the Professional Rescuer or American Safety and Health Institute CPR Professional Level CPR/AED or American Academy of Orthopaedic Surgeons Professional Rescuer CPR or Medic First Aid Basic Life Support for Professionals.

### 531-115 RN to EMT-Basic Transition 2 cr

The RN to EMT Basic Transition Course bridges the gap between currently licensed RNs and the Emergency Medical Technician-Basic. This 48-hour course includes didactic and practical skill information utilized by pre-hospital care providers that is not a usual part of the scope of practice for a registered nurse. Covered in this training is information ranging EMS Systems, airway equipment and patient assessment to splints, spinal immobilization devices and ambulance cots-all the devices utilized by EMTs on an ambulance. Included in the course will be written exams and development competencies in practical applications; ambulance ride-along will provide the opportunity to complete the required 5 patient contacts. Upon successful completion of this course, the RN will be able to participate in the National Registry of EMT computer exam and practical exam. Prerequisites include current Healthcare Provider CPR certification and a current RN license. Proof of these must be presented at the first session.

### 531-140 FireMedic Fundamentals 5 cr

This course orients the student to the culture, organization, and history of the Fire Based EMS-Service. Students understand the roles and responsibilities of the FireMedic. Topics include ethics, legal aspects, wellness and injury prevention, communication, documentation, history-taking, and decision-making. Several medical skills are reviewed including physical exam techniques, pathophysiology, and patient assessment. Prerequisite(s): 531-152 Paramedic Pharmacology (or taken concurrently) and 531-155 Respiratory Management (or

taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

### 531-151 Paramedic Fundamentals 5 cr

This preparatory course includes: EMS Systems, 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 Communications, and Documentation. Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 31-531-1 EMT-Paramedic Advanced.

### 531-152 Paramedic Pharmacology 4 cr

This course provides the opportunity for the student to develop the knowledge and understanding of basic pharmacodynamics, medication preparation, administration of medication and selected medications used in the treatment of disorders of the major body systems. Prerequisite(s): (531-140 FireMedic Fundamentals (or taken concurrently) or 531-151 Paramedic Fundamentals (or taken concurrently) and 531-155 Respiratory Management (or taken concurrently).

### 531-155 Respiratory Management 2 cr

This course provides the student with the knowledge and skills to establish and/or maintain a patient airway, oxygenate, and ventilate a patient. Prerequisite(s): (531-140 FireMedic Fundamentals (or taken concurrently) or 531-151 Paramedic Fundamentals (or taken concurrently) and 531-152 Paramedic Pharmacology (or taken concurrently).

### 531-156 Cardiology 1 3 cr

This course will provide the student with the basic knowledge and skills to integrate pathophysiological principles and assessment findings, with ECG interpretation, in order to formulate a field impression and implement the treatment for the patient with cardiovascular disease. Prerequisite(s): (531-140 FireMedic Fundamentals (or taken concurrently) or 531-151 Paramedic Fundamentals (or taken concurrently) and 531-152 Paramedic Pharmacology (or taken concurrently) and 531-155 Respiratory Management (or taken concurrently). Co-requisite(s): 531-157 Clinical 1-EMT/Paramedic.

### 531-157 Clinical 1-EMT/Paramedic 4 cr

The student is required to complete 288 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor. Prerequisite(s): 531-155 Respiratory Management (or taken concurrently). Co-requisite(s): 531-156 Cardiology 1.

### 531-158 Cardiology 2 3 cr

This course provides the student with the knowledge and skills to integrate a field impression and implement a treatment plan for a patient with Acute Coronary Syndrome (ACS) and includes Advanced Cardiac Life Support Certification. The student will gain an understanding of basic 12 lead ECG interpretation as it applies to the treatment for a patient with ACS. Prerequisite(s): 531-156 Cardiology 1 (or taken concurrently).

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**531-159 Medical Emergencies** 3 cr  
This course will provide the student with the 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. Prerequisite(s): 531-156 Cardiology 1.

**531-164 Trauma** 3 cr  
This course will provide the student 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. This course includes: Soft Tissue Trauma, Burns, Head and Facial Trauma, Spinal Trauma, Abdominal Trauma, Thoracic Trauma, and Mechanism of Injury Trauma Systems. This course includes PHTLS Certification. Prerequisite(s): 531-158 Cardiology 2 (or taken concurrently) and 531-159 Medical Emergencies (or taken concurrently). Co-requisite(s): 531-165 Emergency Care for Specialists.

**531-165 Emergency Care for Specialists** 3 cr  
This course will provide the student 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. This course also covers the victim of abuse or assault, patients with special challenges, acute interventions in the home care patient and life span development. This course includes Pediatric Advanced Life Support (PALS) and Neonatal (NALS) Certification. Prerequisite(s): 531-158 Cardiology 2 (or taken concurrently). Co-requisite(s): 531-164 Trauma.

**531-166 EMS Operations** 3 cr  
This course includes Ambulance Operations, Medical Incident Command, Rescue Awareness, Weapons of Mass Destruction, Assessment Based Management, and NREMT-P prep. Prerequisite(s): (531-164 Trauma (or taken concurrently) and 531-165 Emergency Care for Specialists (or taken concurrently).

**531-167 Clinical 2-EMT/Paramedic** 3 cr  
The student is required to complete 216 hours of documented practical skills application and observation at the beginning EMT-Paramedic level. The student will perform required skill competencies at a variety of clinical and field internship sites under the direct supervision of an approved preceptor. Prerequisite(s): 531-157 Clinical 1-EMT/Paramedic.

**531-170 FireMedic Internship** 4 cr  
The student is required to complete documented practical skills application and observation at the beginning Firefighter I/EMT-Paramedic level. The student will perform required skill competencies at a fire-based EMS field internship site under the direct supervision of an approved preceptor. Prerequisite(s): 531-164 Trauma (or taken concurrently) and 531-165 Emergency Care for Specialists (or taken concurrently). Co-requisite(s): 531-166 EMS Operations.

**531-180 Intro to Adv Pre-hospital Care** 4 cr  
This course will serve as a bridge from the EMT-Basic into Advanced

Life Support course offerings inclusive of EMT-Intermediate, Paramedic and FireMedic. Course will include lab (simulation). With competency validated, 128 hours of on-the-job training will follow with an ambulance service. This course will lead to a better prepared learner as student moved into advanced level course work with a better understanding of occupation and expectation of the work place.

**531-187 FireMedic Adv Emerg Resus** 1 cr  
By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, the course prepares the firemedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. Prerequisite(s): 531-916 Paramedic Cardiology. Restricted to students admitted to the following program(s): 10-531-2 FireMedic.

**531-302 Intermediate** 3 cr  
Consists of 120 hours of course work that adheres to state guidelines and prepares experienced EMTs to take the National Reg. EMT-I exam. Covers advanced life support, including patient assessment, IVs, and administration of select medications.

**531-315 Critical Care Transport** 3 cr  
The Critical Care Transport - Paramedic course is designed to prepare Wisconsin paramedics to function as critical care transport team members. Critically ill or injured patients requiring transport between facilities need a different level of care from hospital or emergency field patients. This course provides students with knowledge of the special assessment techniques and needs of the critical care patient, the ability to operate and troubleshoot critical care transport equipment, and develops the skills necessary to maintain the stability of the critical care patient during transport. This course follows the Wisconsin curriculum for license endorsement as a Critical Care Paramedic.

**531-340 Advanced EMT** 3 cr  
This course consists of 90 hours of training. This program incorporates advanced skills, beyond those of the existing EMT-Basic. Graduates will demonstrate competency in the initiation of IV therapy, administration of select medications as approved by DHFS and local medical directors via intravenous, intramuscular, subcutaneous, sublingual, and inhalation routes. Classes will be offered upon approval by CVTC and the State Board. This course is not eligible for financial aid. Prerequisite: EMT Basic.

**531-350 First Aid CPR** 1 cr  
This training is designed to provide the education necessary to manage an emergency until EMS arrives. In the first aid section, the student will learn about scene safety, recognition of both trauma and medical emergencies and appropriate interventions in these situations. BLS for Healthcare Provider includes techniques for adult, infant and child CPR, choking, and automated external defibrillator (AED). All training will be consistent with the most current American Heart Association guidelines. Meeting cognitive and psychomotor objectives will result in certification in the American Heart Association Heartsaver First Aid and the BLS for the Healthcare Provider. While this training is used by the general public, the BLS for Healthcare Provider training will also meet the requirements for EMT Basic and other health-related fields.

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**531-351 Paramedic Fundamentals** 2 cr  
This introductory course establishes the fundamental principles of Emergency Medical Services including the paramedic's roles and responsibilities. The course includes essential components of paramedic knowledge such as the workings of the EMS system, medical-legal aspects, ethics, medical terminology, documentation, critical thinking, and advanced assessment skills. Restricted to students admitted to the following program(s): 31-531-1 EMT-Paramedic Advanced.

**531-352 Pharmacology for Emer Medicine** 3 cr  
This course focuses on administration, absorption, distribution, metabolism, and excretion of drugs, their effects on the body, and the paramedic's roles and responsibilities related to drug therapy. Prerequisite(s): (804-113 College Technical Math 1A (or taken concurrently) or 804-141 Applied Algebra (or taken concurrently) and (806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I (or taken concurrently)). Restricted to students admitted to the following program(s): 31-531-1 EMT-Paramedic Advanced.

**531-353 Airway Management** 1 cr  
Course work focuses on advanced assessment of the airway, ventilation, and oxygenation. Paramedic students will be able to assess the airway and oxygenation, establish and/or maintain a patient airway, oxygenate and ventilate a patient utilizing basic and advanced skills. Much of this course is competency based. Restricted to students admitted to the following program(s): 31-531-1 EMT-Paramedic Advanced.

**531-354 Trauma Care** 3 cr  
This course is a study of the kinematics, pathophysiology, assessment, and management of common traumatic emergencies. Course work includes completion of Pre-Hospital Trauma Life Support (PHTLS). Prerequisite(s): 531-351 Paramedic Fundamentals and 531-352 Pharmacology for Emer Medicine and 531-353 Airway Management and 531-355 Cardiovascular Emergencies and 531-370 Clinical I and (804-113 College Technical Math 1A or 804-141 Applied Algebra) and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I).

**531-355 Cardiovascular Emergencies** 4 cr  
This course is a study of the pathophysiology, assessment, and management of common cardiovascular diseases. Course work comprises of basic and advanced electrocardiogram interpretation, including 12-lead ECGs and completion of Advanced Cardiac Life Support (ACLS). Prerequisite(s): 806-140 Anatomy & Physiology I (or taken concurrently) or 806-177 Gen Anatomy & Physiology (or taken concurrently). Restricted to students admitted to the following program(s): 31-531-1 EMT-Paramedic Advanced.

**531-356 Maternal & Pediatric Emergen** 3 cr  
Paramedic students will explore the pathophysiology, assessment, and management of common obstetrical, gynecological, pediatric, and neonatal diseases including newborn delivery and pediatric/neonatal resuscitation. Course includes completion of Pediatric Advanced Life Support (PALS) and Pediatric Education for Prehospital Professionals (PEPP). Prerequisite(s): 531-354 Trauma Care (or taken concurrently).

**531-357 Medical Emergencies** 4 cr  
This course is a study of the pathophysiology, assessment, and management of common medical emergencies including pulmonary, neurologic, endocrine, gastroenteral, renal/urologic, toxicologic, hematologic, environmental, infectious, and behavioral. Prerequisite(s): 531-351 Paramedic Fundamentals and 531-352 Pharmacology for Emer Medicine and 531-353 Airway Management and 531-355 Cardiovascular Emergencies and 531-370 Clinical I and (804-113 College Technical Math 1A or 804-141 Applied Algebra) and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I).

**531-358 EMS Operations** 1 cr  
Upon completion of this course, the paramedic student will be able to safely manage the scene of an emergency. Course studies include multiple casualty incident management, rescue operations, hazardous materials, crime scene awareness, aeromedical transport, and ambulance operations. Prerequisite(s): 531-354 Trauma Care and 531-356 Maternal & Pediatric Emergen and 531-357 Medical Emergencies and 531-371 Clinical II.

**531-370 Clinical I** 1 cr  
This clinical experience emphasizes airway assessment and management, patient assessment, and patient care. A portion of this clinical experience will be spent in the operating room practicing airway assessment and management skills while another portion will be spent in the emergency department practicing patient assessment and care. Prerequisite(s): 531-352 Pharmacology for Emer Medicine (or taken concurrently) and 531-353 Airway Management (or taken concurrently). Restricted to students admitted to the following program(s): 31-531-1 EMT-Paramedic Advanced.

**531-371 Clinical II** 3 cr  
This course emphasizes the application of critical thinking skills, advanced assessment, and patient care. Clinical time will be spent in a variety of patient care settings including respiratory therapy, emergency department, critical care, labor and delivery, aeromedical transport, and EMS. Prerequisite(s): 531-357 Medical Emergencies (or taken concurrently).

**531-374 Advanced Life Support Skills** 1 cr  
This course is designed as an update on current trends in Paramedic care for adults, pediatrics, and infants. Students will review and employ the latest skills found within the Paramedic's scope of practice and commonly performed by Paramedics on 911, inter-facility, and in-hospital patient contacts. Skills covered include: Advanced assessment techniques, basic and advanced airway management, including numerous techniques for tracheal intubation, surgical airways, and rapid sequence intubation (RSI), electrical therapy, medication administration, vascular access, chest decompression, chest tube management, arterial and central line management, emergency child birth, and GI/GU catheterization. Students must be licensed Paramedic, RNs, or Paramedic students in their final semester of the Paramedic program. Prerequisite(s): 531-354 Trauma Care and 531-356 Maternal & Pediatric Emergen and 531-357 Medical Emergencies and 531-371 Clinical II.

**531-375 Internship I** 3 cr  
During this course, the paramedic intern will function in the prehospital setting under the supervision of the paramedic preceptor. Paramedic

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interns will progress from the level of observation to that of an active team member. Upon completion, students will be able to perform as an effective member of the patient care team. Prerequisite(s): 531-354 Trauma Care and 531-356 Maternal & Pediatric Emergen and 531-357 Medical Emergencies and 531-371 Clinical II.

## **531-376 Internship II** **2 cr**

This course incorporates everything the paramedic intern has learned throughout the program. During this course, the paramedic intern will progress from the role of team member to that of the patient care team leader. Upon completion, students will be able to manage the scene of an emergency, assess patients, formulate a patient care plan based upon their assessment, and initiate that plan with the same competency of a newly licensed paramedic in the prehospital environment. Prerequisite(s): 531-375 Internship I (or taken concurrently).

## **531-911 EMS Fundamentals** **2 cr**

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other health care professionals. Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

## **531-912 Paramedic Medical Principles** **4 cr**

This course addresses the complex depth of anatomy, physiology, and pathophysiology of major human systems while also introducing the paramedic students to the topics of shock, immunology, and bleeding. Prerequisite(s): 531-911 EMS Fundamentals (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

## **531-913 Patient Assessment Principles** **3 cr**

This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients. Prerequisite(s): 531-912 Paramedic Medical Principles (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

## **531-914 Prehospital Pharmacology** **3 cr**

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient. Prerequisite(s): 531-913 Patient Assessment Principles (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

## **531-915 Paramedic Respiratory Mgmt** **2 cr**

This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint. Prerequisite(s): 531-914 Prehospital Pharmacology (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

## **531-916 Paramedic Cardiology** **4 cr**

This course teaches the paramedic student to integrate assessment findings with principles of cardiovascular anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a cardiovascular complaint. Prerequisite(s): 531-915 Paramedic Respiratory Mgmt (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

## **531-917 Paramedic Clinical/Field 1** **3 cr**

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Prerequisite(s): 531-916 Paramedic Cardiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

## **531-918 Advanced Resuscitation** **1 cr**

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible. Prerequisite(s): 531-916 Paramedic Cardiology (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

## **531-919 Paramedic Medical Emergencies** **4 cr**

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for a patient with a medical complaint. Prerequisite(s): 531-917 Paramedic Clinical/Field 1 (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

## **531-920 Paramedic Trauma** **3 cr**

This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and

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pathophysiology to formulate a field impression and implement a comprehensive treatment plan for an acutely injured patient. Prerequisite(s): 531-919 Paramedic Medical Emergencies (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

**531-921 Special Patient Populations** **3 cr**  
This course teaches the paramedic student to integrate assessment findings with principles of anatomy, physiology, epidemiology, and pathophysiology to formulate a field impression and implement a comprehensive treatment plan for patients with special needs. Gynecological emergencies, along with special considerations in trauma are also included within this course. Prerequisite(s): 531-920 Paramedic Trauma (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician, 10-531-2 FireMedic.

**531-922 EMS Operations** **1 cr**  
This course provides the paramedic student with the knowledge of operational roles and responsibilities to ensure patient, public, and EMS personnel safety. Prerequisite(s): 531-921 Special Patient Populations (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

**531-923 Paramedic Capstone** **1 cr**  
This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical Skills Attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum. Prerequisite(s): 531-922 EMS Operations (or taken concurrently) or 531-166 EMS Operations (or taken concurrently). Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

**531-924 Paramedic Clinical/Field 2** **4 cr**  
This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in the field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS. Restricted to students admitted to the following program(s): 10-531-2 FireMedic, 10-531-1 Paramedic Technician.

## 534-Central Services Tech/Asst

**534-300 Central Serv Tech, Fundamentals** **3 cr**  
Introduces packaging, cleaning techniques, care, handling, identification, and usage of instruments, equipment and supplies, basic aseptic techniques and patient centered practices in the lab setting. Students will also spend time working in a Central Service Department at a local hospital. Co-requisite(s): 534-302 Central Serv Tech Clinical. Restricted to students admitted to the following program(s): 30-534-1 Central Service Technician.

**534-301 Central Serv Tech, Intro to** **2 cr**  
Introduces the learner to the central service department, its layout, and functions (sterilization, distribution, decontamination) within the hospital. Legal and ethical aspects of working in this critical department are also covered. Co-requisite(s): 534-300 Central Serv Tech, Fundamentals. Restricted to students admitted to the following program(s): 30-534-1 Central Service Technician.

**534-302 Central Serv Tech Clinical** **1 cr**  
Learner is given the opportunity to apply what they have learned in the clinical setting at a local hospital. Time will be spent in the central service department as well as the operating room. Prerequisite(s): 501-101 Medical Terminology (or taken concurrently) and 103-102 Microsoft Office Suite (or taken concurrently) and 806-301 Basic Microbiology (or taken concurrently). Co-requisite(s): 534-300 Central Serv Tech, Fundamentals. Restricted to students admitted to the following program(s): 30-534-1 Central Service Technician.

## 536-Pharmacy

**536-110 Pharmaceutical Calculations** **3 cr**  
Prepares the learner to convert weights and volumes between the avoirdupois, the apothecary, and the metric systems of measurement; utilize ratios and proportions; reduce and enlarge pharmaceutical formulas; calculate medication quantities from percent w/w, w/v, v/v, pm, and ratio concentrations; perform dilution calculations; utilize the allegation method; solve problems related to electrolyte solutions; convert temperatures between the Fahrenheit and Celsius scales; convert military and standard time; and calculate individualized patient dosages based on body surface area, age, and/or weight of the patient. Prerequisite(s): 501-101 Medical Terminology (or taken concurrently). Co-requisite(s): 536-112 Pharmacy Business Apps and 536-115 Pharmacy Law and 536-120 Reading Prescriptions, Fund of and 536-134 Pharmacy Benefits-Managing and 536-138 Pharmacy Community Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

**536-112 Pharmacy Business Apps** **4 cr**  
This course prepares the learner to summarize pharmacy policies dealing with the Health Insurance Privacy and Portability Act (HIPPA), analyze criminal activities in the pharmacy, assess the operation and location of pharmacy equipment, utilize information posted in the pharmacy, analyze the work culture of the pharmacy, analyze the steps in processing a prescription, analyze patient profile information, analyze issues affecting the practice of pharmacy, market employment skills, analyze patient safety issues, analyze pharmacy front of store operations, analyze methods used to prepare extemporaneous compounds, and analyze customer service issues. Co-requisite(s): 536-110 Pharmaceutical Calculations and 536-115 Pharmacy Law and 536-120 Reading Prescriptions, Fund of and 536-134 Pharmacy Benefits-Managing and 536-138 Pharmacy Community Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

**536-115 Pharmacy Law** **2 cr**  
This course prepares the learner to apply Federal laws to the practice of pharmacy; apply Wisconsin State laws to the practice of pharmacy; select appropriate drug products for substitution in accordance with the law; explain the Investigational New Drug (IND) process; explain

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pharmacy equipment, license, and floor plan legal requirements; apply controlled substance laws to the procurement, processing, and record keeping of controlled substances; analyze the history of pharmacy law; and summarize drug law enforcement agencies. Co-requisite(s): 536-110 Pharmaceutical Calculations and 536-112 Pharmacy Business Apps and 536-120 Reading Prescriptions, Fund of and 536-134 Pharmacy Benefits-Managing and 536-138 Pharmacy Community Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-120 Reading Prescriptions, Fund of 2 cr**

This course prepares the learner to match the brand name and generic name of commonly prescribed medications, determine the pharmacologic classes of commonly prescribed medications, determine the appropriate auxiliary labels to be placed on prescription bottles for commonly prescribed medications, determine if a prescribed medication is a controlled substance and to which schedule it belongs, analyze prescriptions for appropriateness of drug and dosing schedule, and interpret Latin abbreviations used in the practice of pharmacy. Co-requisite(s): 536-110 Pharmaceutical Calculations and 536-112 Pharmacy Business Apps and 536-115 Pharmacy Law and 536-134 Pharmacy Benefits-Managing and 536-138 Pharmacy Community Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-122 Pharmacology for Pharmacy Tech 3 cr**

Prepares the learner to summarize treatments for diseases of the Musculoskeletal, Dermatologic, Endocrine, Reproductive, Cardiovascular, Respiratory, Hematologic, Immune, Nervous, Gastrointestinal, Renal eyes, ears, nose, and throat, as well as the use of antineoplastic and geriatric drugs. Co-requisite(s): 536-124 Pharmacy Drug Dist. Systems and 536-126 Pharmacy Parenteral Admixtures and 536-140 Pharmacy Hospital Clinical and 536-141 Hospital Pharmacy Lab. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-124 Pharmacy Drug Dist. Systems 1 cr**

Prepares the learner to analyze the changes occurring in institutional health care and the consequences for pharmacists and pharmacy technicians, analyze the unit dose packaging and distribution system, compare various hospital or nursing home pharmacy administrative and physical designs, compare different distribution systems used in hospital or nursing homes, and interview for a job. Prerequisite(s): 536-112 Pharmacy Business Apps and 536-134 Pharmacy Benefits-Managing and 536-138 Pharmacy Community Clinical. Co-requisite(s): 536-122 Pharmacology for Pharmacy Tech and 536-126 Pharmacy Parenteral Admixtures and 536-140 Pharmacy Hospital Clinical and 536-141 Hospital Pharmacy Lab. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-126 Pharmacy Parenteral Admixtures 3 cr**

Prepares the learner to utilize supplies used in preparation of parenteral admixtures, compare common parenteral solutions, identify equipment to prepare parenteral products, differentiate various parenteral administration routes, prepare parenteral admixtures using aseptic technique, prevent incompatibilities from occurring in parenteral admixtures, prepare cytotoxic medications, prepare total parenteral nutrition products, and perform parenteral admixture calculations. Co-

requisite(s): 536-122 Pharmacology for Pharmacy Tech and 536-124 Pharmacy Drug Dist. Systems and 536-140 Pharmacy Hospital Clinical and 536-141 Hospital Pharmacy Lab. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-134 Pharmacy Benefits-Managing 1 cr**

This course prepares the learner to utilize terminology pertinent to third party reimbursements in the field of pharmacy, analyze the various popular formulary systems, calculate the selling price for a prescription based on the Average Wholesale Price (AWP) and the formula required by the Pharmacy Benefit Manager, analyze the role of the Pharmacy Benefits Manager in the health care system, and summarize medical coverage provided by government agencies. Co-requisite(s): 536-110 Pharmaceutical Calculations and 536-112 Pharmacy Business Apps and 536-115 Pharmacy Law and 536-120 Reading Prescriptions, Fund of and 536-138 Pharmacy Community Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-138 Pharmacy Community Clinical 2 cr**

This course prepares the learner to apply policies and procedures in the pharmacy, complete the ordering process to meet inventory goals, bill third parties for patient prescriptions, process prescriptions, identify medical and surgical supplies for customers, process controlled substance prescriptions, compound extemporaneous products, maintain patient medical histories, and fulfill duties in unique service areas. Co-requisite(s): 536-110 Pharmaceutical Calculations and 536-112 Pharmacy Business Apps and 536-115 Pharmacy Law and 536-120 Reading Prescriptions, Fund of and 536-134 Pharmacy Benefits-Managing. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-140 Pharmacy Hospital Clinical 2 cr**

In this course, students will have the opportunity to experience the daily activities of a pharmacy technician in a hospital pharmacy setting. Students will learn how medication orders are prepared, processed, and delivered along with maintaining medication inventory in several areas, interacting with other medical staff and following policies and procedures of the hospital and pharmacy. Co-requisite(s): 536-122 Pharmacology for Pharmacy Tech and 536-124 Pharmacy Drug Dist. Systems and 536-126 Pharmacy Parenteral Admixtures and 536-141 Hospital Pharmacy Lab. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

## **536-141 Hospital Pharmacy Lab 2 cr**

This course is a blend of both hands-on lab activities and clinical site experiences in daily tasks performed by pharmacy technicians in inpatient settings. Topics covered include unit-dose packaging, filling of unit dose charts, IV compounding, interpreting physician orders, and utilization of aseptic technique in laminar flow hood settings. Co-requisite(s): 536-122 Pharmacology for Pharmacy Tech and 536-124 Pharmacy Drug Dist. Systems and 536-126 Pharmacy Parenteral Admixtures and 536-140 Pharmacy Hospital Clinical. Restricted to students admitted to the following program(s): 31-536-1 Pharmacy Technician.

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## 543-Nursing

### 543-101 Nursing Fundamentals 2 cr

This course focuses on basic nursing concepts that the beginning nurse will need to provide care to diverse patient populations across the lifespan. Current and historical issues impacting nursing will be explored within the scope of nursing practice. The nursing process will be introduced as a framework for organizing the care of patients with alterations in cognition, elimination, comfort, grief/loss, mobility, integument, and fluid/electrolyte balance. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I. Restricted to students admitted to the following program(s): 31-543-1 Practical Nursing, 10-543-1 Nursing-Associate Degree.

### 543-102 Nursing Skills 3 cr

This course focuses on development of clinical skills and physical assessment across the lifespan. Content includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheostomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition the course includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Prerequisite(s): 543-101 Nursing Fundamentals (or taken concurrently) and 543-103 Nursing Pharmacology (or taken concurrently) and (806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I). Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

### 543-103 Nursing Pharmacology 2 cr

This course introduces the principles of pharmacology, including drug classifications and their effects on the body. Emphasis is on the use of the components of the nursing process when administering medications. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I. Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

### 543-104 Nsg: Intro Clinical Practice 2 cr

This introductory clinical course emphasizes basic nursing skills and application of the nursing process in meeting the needs of diverse clients across the lifespan. Emphasis is placed on performing basic nursing skills, the formation of nurse-client relationships, communication, data collection, documentation, and medication administration. Prerequisite(s): 543-101 Nursing Fundamentals (or taken concurrently) and 543-102 Nursing Skills (or taken concurrently) and 543-103 Nursing

Pharmacology (or taken concurrently) and (806-177 Gen Anatomy & Physiology (or taken concurrently) or 806-140 Anatomy & Physiology I). Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

### 543-105 Nursing Health Alterations 3 cr

This course elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. It applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. This course will provide an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. It will also introduce concepts of leadership, team building, and scope of practice. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-101 Nursing Fundamentals and 543-102 Nursing Skills and 543-103 Nursing Pharmacology and 543-104 Nsg: Intro Clinical Practice and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (809-188 Developmental Psychology (or taken concurrently) or 809-130 Developmental Psychology). Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

### 543-106 Nursing Health Promotion 3 cr

This course will cover topics related to health promotion in the context of the family throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of health families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-101 Nursing Fundamentals and 543-102 Nursing Skills and 543-103 Nursing Pharmacology and 543-104 Nsg: Intro Clinical Practice and (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I) and (809-188 Developmental Psychology (or taken concurrently) or 809-130 Developmental Psychology). Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

### 543-107 Nsg: Clin Care Across Lifespan 2 cr

This clinical experience applies nursing concepts and therapeutic interventions to clients across the lifespan. It also provides an introduction to concepts of teaching and learning. Extending care to include the family is emphasized. Prerequisite(s): 543-101 Nursing Fundamentals and 543-102 Nursing Skills and 543-103 Nursing Pharmacology and 543-104 Nsg: Intro Clinical Practice and 543-105 Nursing Health Alterations (or taken concurrently). Restricted to

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students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, 31-543-1 Practical Nursing.

**543-108 Nsg: Intro Clinical Care Mgt** **2 cr**  
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. Prerequisite(s): 543-101 Nursing Fundamentals and 543-102 Nursing Skills and 543-103 Nursing Pharmacology and 543-104 Nsg: Intro Clinical Practice and (809-188 Developmental Psychology (or taken concurrently) or 809-130 Developmental Psychology) and 543-106 Nursing Health Promotion (or taken concurrently). Restricted to students admitted to the following program(s): 31-543-1 Practical Nursing, 10-543-1 Nursing-Associate Degree.

**543-109 Nsg: Complex Health Alterat 1** **3 cr**  
This course prepares the learner 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. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-105 Nursing Health Alterations and 543-106 Nursing Health Promotion and 543-107 Nsg: Clin Care Across Lifespan and 543-108 Nsg: Intro Clinical Care Mgt and (806-179 Adv Anatomy & Physiology or 806-141 Anatomy & Physiology II) and (806-197 Microbiology (or taken concurrently) or 806-132 Applied Microbiology). Restricted to students admitted to the following program(s): 10-510-1 Nursing-Associate Degree, 10-543-1 Nursing-Associate Degree.

**543-110 Nsg: Mental Health Comm Con** **2 cr**  
This course will cover topics related to the delivery of community and mental health care. Specific health needs of individuals, families, and groups will be addressed across the lifespan. Attention will be given to diverse and at-risk populations. Mental health concepts will concentrate on adaptive/maladaptive behaviors and specific mental health disorders. Community resources will be examined in relation to specific types of support offered to racial, ethnic, economically diverse individuals and groups. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-105 Nursing Health Alterations and 543-106 Nursing Health Promotion and 543-107 Nsg: Clin Care Across Lifespan and 543-108 Nsg: Intro Clinical Care Mgt and (806-179 Adv Anatomy & Physiology or 806-141 Anatomy & Physiology II). Restricted to students admitted to the following program(s): 10-510-1 Nursing-Associate Degree, 10-543-1 Nursing-Associate Degree.

**543-111 Nsg: Intermed Clin Practice** **3 cr**  
This intermediate level clinical course develops the RN role when working with clients with complex health care needs. A focus of the

course is developing skills needed for managing multiple clients and priorities. Using the nursing process students will gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 (or taken concurrently) and 543-110 Nsg: Mental Health Comm Con (or taken concurrently) and 543-112 Nursing Advanced Skills (or taken concurrently) and (809-198 Intro to Psychology (or taken concurrently) or 809-199 Psychology of Human Relations (or taken concurrently) or 809-251 General Psychology (or taken concurrently) and (806-197 Microbiology (or taken concurrently) or 806-132 Applied Microbiology) and (806-179 Adv Anatomy & Physiology or 806-141 Anatomy & Physiology II). Restricted to students admitted to the following program(s): 10-510-1 Nursing-Associate Degree, 10-543-1 Nursing-Associate Degree.

**543-112 Nursing Advanced Skills** **1 cr**  
This course focuses on the development of advanced clinical skills across the lifespan. Content includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation and nasogastric/feeding tube insertion. Prerequisite(s): 543-105 Nursing Health Alterations and 543-106 Nursing Health Promotion and 543-107 Nsg: Clin Care Across Lifespan and 543-108 Nsg: Intro Clinical Care Mgt and (806-179 Adv Anatomy & Physiology or 806-141 Anatomy & Physiology II). Restricted to students admitted to the following program(s): 10-510-1 Nursing-Associate Degree, 10-543-1 Nursing-Associate Degree.

**543-113 Nsg: Complex Health Alterat 2** **3 cr**  
This course prepares the learner to expand knowledge and skills from previous courses in caring for clients across the lifespan with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and the reproductive systems. The learner will also focus 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. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and 543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills and (809-198 Intro to Psychology or 809-199 Psychology of Human Relations or 809-251 General Psychology) and (806-197 Microbiology or 806-132 Applied Microbiology).

**543-114 Nsg: Mgt & Profess Concepts** **2 cr**  
This course covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice. Note: For Online course offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and

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543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills and (809-198 Intro to Psychology or 809-199 Psychology of Human Relations or 809-251 General Psychology) and (806-197 Microbiology or 806-132 Applied Microbiology).

**543-115 Nsg: Adv Clinical Practice** **3 cr**  
This advanced clinical course requires the student to integrate concepts from all previous courses in the management of groups of clients facing complex health alterations. Students 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. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and 543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills and (809-198 Intro to Psychology or 809-199 Psychology of Human Relations or 809-251 General Psychology) and (806-197 Microbiology or 806-132 Applied Microbiology) and 543-113 Nsg: Complex Health Alterat 2 (or taken concurrently).

**543-116 Nursing Clinical Transition** **2 cr**  
This clinical experience prepares the student to assume the role of graduate nurse. The course promotes clinical decision-making, delegation, and collaboration to achieve client and organizational outcomes. Continued professional development is fostered. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and 543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills and (809-198 Intro to Psychology or 809-199 Psychology of Human Relations or 809-251 General Psychology) and (806-197 Microbiology or 806-132 Applied Microbiology) and (543-113 Nsg: Complex Health Alterat 2 (or taken concurrently) and 543-114 Nsg: Mgt & Profess Concepts (or taken concurrently) and 543-115 Nsg: Adv Clinical Practice (or taken concurrently).

**543-121 Critical Care Nursing-Intro to** **3 cr**  
This lecture and laboratory course introduces students to the role of the registered nurse in the care of critically ill clients. The roles of the multidisciplinary critical care team will be discussed. Students will explore the various nursing responsibilities in the critical care environment. Selected pathophysiologic concepts related to assessment, diagnosis, intervention and evaluation of clients with cardiac, hemodynamic, respiratory, gastrointestinal, endocrine, and multisystem disorders will be presented. Laboratory practice in the Human Patient Simulation lab is required. Participants must be a student currently enrolled in 4th semester nursing courses at CVTC or RN with active nursing license. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and 543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills. Co-requisite(s): 543-116 Nursing Clinical Transitio. Restricted to students admitted to the following program(s): 10-543-1 Nursing-Associate Degree, TC-543-2 Critical Care Nursing.

**543-122 Clin Practice in Crit Care Nrs** **2 cr**  
This clinical course prepares students to assume a beginning role in the critical care environment. Students will have clinical experiences in a critical care unit. Concepts from critical care nursing theory and simulated environment are practiced in the clinical setting

under the supervision of course instructors and Registered Nurse preceptors. Participants must be 4th semester student or practicing RN. Prerequisite(s): 543-121 Critical Care Nursing-Intro to (or taken concurrently). Restricted to students admitted to the following program(s): TC-543-2 Critical Care Nursing.

**543-143 Cultural Diversity in Hlth Care** **3 cr**  
Health care providers frequently encounter clients from various cultural backgrounds. This course is designed to help students learn more about their own backgrounds and that of people from other cultures. Students will discover ways to interact respectfully with culturally diverse clients.

**543-164 Re-entry to Nurs Practice** **1 cr**  
This course is designed for the Advanced Placement Nursing student to prepare for successful transition into the second year of the nursing program. Students are provided an opportunity to develop skills that will prepare them for the rigor of the program. Emphasis will be placed on application of the nursing process in a variety of settings. Successful completion of this course is required to progress into the program. Restricted to students admitted to the following program(s): 10-543-1 Nursing Adv Plcmt PN-RN.

**543-166 Intro to Emerg Dept Nursing** **3 cr**  
This certification is designed to expand the student's knowledge of nursing practice in the emergency nursing environment. This online course specializing in Emergency Department Nursing gives participants the essential knowledge base required for assessment and initial management of the emergency patient. By completion of the course, participants will not only validate competency, but also demonstrate a greater commitment to specialty and quality health care. This course focuses on determining priorities of care in the assessment of ill or injured emergency patients. Topics covered include triage, assessment, and management of shock; fluid resuscitation; and stabilization of respiratory, neurological, thoracic, and abdominal injuries, basic EKG interpretation and ACLS. This certificate may lead to enhanced career advancement potential and/or employability in an emergency area. Prerequisite: Student currently enrolled in 3rd or 4th semester Associate Degree nursing classes at CVTC or RN with active nursing license. Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 and 543-110 Nsg: Mental Health Comm Con and 543-111 Nsg: Intermed Clin Practice and 543-112 Nursing Advanced Skills. Co-requisite(s): 543-116 Nursing Clinical Transitio. Restricted to students admitted to the following program(s): TC-543-3 Emergency Department Nursing, 10-543-1 Nursing-Associate Degree.

**543-167 Clin Practice in Emer Dept Nrs** **2 cr**  
This clinical experience prepares the student to assume the role of graduate nurse and/or novice nurse in the Emergency Department. The course promotes clinical decision-making, delegation, and collaboration to achieve client and organizational outcomes within the context of the Emergency Department. Continued professional development is fostered in the specialty practice area. Prerequisite(s): 543-166 Intro to Emerg Dept Nursing (or taken concurrently). Restricted to students admitted to the following program(s): TC-543-3 Emergency Department Nursing.

**543-300 Nursing Assistant** **3 cr**  
This 120-hour course is a combination lecture, lab in a classroom and clinical practice conducted in long-term care facilities. It covers

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basic body function and structure, nutrition, nursing care procedures, and ethical and legal considerations. This course is recognized by the Wisconsin Department of Health Services as a nursing assistant training program. For successful completion you'll need to have access to a computer with an Internet hookup. This could be in your home, at a nearby library, at one of the CVTC branch campuses, or another location that is convenient for you. This course is not eligible for financial aid.

## **543-301 Introduction to Geriatrics** **1 cr**

The Introduction to Geriatrics course will offer training in four areas of care as they relate to the geriatric population in the long term care setting: dementia, restorative care, end of life and prevention/management of wounds. It is designed for certified nursing assistants working in long term care to increase knowledge and understanding of the resident population, encourage life long learning, promote the use of technology, and improve job satisfaction through the power of knowledge. Nursing Assistants who complete the course are eligible to receive the Geriatric Nursing Assistant Certificate. Co-requisite(s): 543-300 Nursing Assistant.

## **550-Alcohol & Other Drug Abuse**

### **550-102 AODA Counseling/Interviewing** **3 cr**

Introduction and application of basic counseling/communication micro-skills used in individual and group therapy. Ivey's intentional interviewing and counseling and Miller's Motivational Interviewing will provide the foundation for utilizing these skills with substance use disorder patients. Learners will record and critique practice in the lab setting and must demonstrate effective counseling skills. Prerequisite(s): 550-113 Intro to Prev & Trtmt Profession and 550-114 Ethics & Public Policy and 550-108 Substance Use: Risk & Reality and (801-196 Oral/Interpersonal Comm or 801-198 Speech or 810-201 Fundamentals of Speech) and (809-198 Intro to Psychology or 809-251 General Psychology).

### **550-104 Internship I** **2 cr**

Learners spend eight hours per week over 16 weeks (total 128 hours) at a clinical site to observe, and get some introductory practice in the substance use disorder counselor eight practice dimensions (the basic tasks and responsibilities that constitute the work of a substance use disorder counselor), and 12 core functions (the observation and practice of skills while treating substance use disorder patients under the close supervision of a clinical supervisor). Learners read agency policies and procedures, document clinical hours, develop a learning plan, submit weekly clinical notes on progress toward plan goals, complete written assignments and tests, engage in discussion, and demonstrate core function knowledge and professionalism and employability skills. Eight hours are allocated for on-campus seminars held throughout the internship. Learners apply for the Wisconsin entry-level SAC-IT license near the end of the course. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-161 AODA and Corrections and 550-111 Group Facilitation (or taken concurrently) and 809-188 Developmental Psychology and 550-110 Theories & Methods of AODA Trt and 550-154 Culturally Skilled Counseling and 806-177 Gen Anatomy & Physiology (or taken concurrently).

### **550-106 Internship Advanced I** **3 cr**

Learners spend 24 hours per week over 16 weeks at a treatment-

providing agency for the first eight weeks of the semester (total 192 hours). They integrate knowledge, skills, and attitudes acquired in the first three semesters through practice of the eight professional practice dimensions and twelve core functions of substance use disorder counselors while supervised by a licensed clinical supervisor. Learners document clinical hours, develop a learning plan, submit weekly clinical notes on progress toward plan goals, complete written assignments, engage in discussion, demonstrate core function practice, professionalism and employability skills, and apply for the SAC license. Prerequisite(s): 550-104 Internship I and 550-111 Group Facilitation and 550-115 AODA Assess & Treatment Plng and 550-160 Psychiatric Disease and AODA and 550-121 Info Mgmt for Prev & Treatment and 550-122 Pharmacology-Substance Abuse and 550-120 Family & Community Systems (or taken concurrently) and (809-196 Intro to Sociology or 809-271 Introductory Sociology). Co-requisite(s): 550-107 Internship Advanced II and 550-150 Issues-Internship II Seminar.

### **550-107 Internship Advanced II** **3 cr**

Learners continue practical field experience started in 550-106 Internship Advanced I for 24 hours per week over the second eight weeks of the semester. Learners document clinical hours, submit weekly clinical notes on progress toward learning plan goals, complete written assignments, engage in discussion, and demonstrate core function competency and professionalism and employability skills. Co-requisite(s): 550-106 Internship Advanced I and 550-150 Issues-Internship II Seminar.

### **550-108 Substance Use: Risk & Reality** **3 cr**

Available to all students interested in understanding levels of risk associated with substance use and successful methods of prevention for reducing problems over the entire lifespan at community and family levels, this is a required course for students enrolled in the AODA associate degree program. Topics include: risk associated with substance use; making low-risk choices; reducing risks (for those who do not already have a substance use disorder) of experiencing substance-related health or impairment problems; communicating family expectations for behavior and clarifying what is acceptable regarding substance use; expanding prevention practices to the community.

### **550-110 Theories & Methods of AODA Trt** **3 cr**

After an introduction and overview of psychoanalytic, Adlerian and Existential theory, learners study and practice common therapies and their uses for substance use disorder treatment: person-centered, Gestalt, cognitive-behavioral, reality, and others as time permits. Learners are introduced to 12-step approaches, attend self-help group meetings, read textbooks, complete written assignments, practice theory-based techniques, and take written exams. Prerequisite(s): 550-113 Intro to Prev & Trtmt Profession and 550-114 Ethics & Public Policy and 801-195 Written Communication and 809-198 Intro to Psychology and 550-108 Substance Use: Risk & Reality.

### **550-111 Group Facilitation** **2 cr**

Introduction to theory and practice of group dynamics. Knowledge areas covered are: ethical considerations, effective group leadership, and stages of group development. Learners will record and critique practice in the lab setting, will function as group members, and must demonstrate effective group facilitation skills. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-110 Theories & Methods of AODA Trt and 809-188 Developmental Psychology and 550-154 Culturally Skilled Counseling.

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**550-113 Intro to Prev & Trtmt Profession** 3 cr  
Explore the causes and effects of substance use disorders treatment and prevention settings and approaches, resources, and professional certification. Outline assessment criteria for clinical identification of these disorders and effective treatment techniques. Differentiate prevention from and treatment approaches and resources. Investigate own lifestyle choices. Discover review history of the profession, current issues, professional and ethical standards, and knowledge and skills expectations for substance use disorder counseling. Restricted to students admitted to the following program(s): 10-550-1 Alcohol & Other Drug Abuse.

**550-114 Ethics & Public Policy** 3 cr  
Examine personal attitudes, values, and motivations regarding working in the treatment profession. Apply federal and state guidelines to case examples in the areas of confidentiality, patients' rights, dual relationships, fraudulent behavior, and other ethical issues. Become familiar with professional codes of conduct for the substance use disorder counselor and adhere to them by practicing in accordance with the highest ethical standards. Review the intent and effectiveness of public policies relative to the treatment profession. Advocacy on current policy issues affected by managed care and government structure and process is introduced. Restricted to students admitted to the following program(s): 10-550-1 Alcohol & Other Drug Abuse.

**550-115 AODA Assess & Treatment Plng** 3 cr  
Practice clinical evaluation/assessment and treatment planning for substance use disorders. Differentiate screening and diagnostic tools. Demonstrate effective interviewing skills to collect relevant patient history/data. Demonstrate diagnostic and documentation skills using current DSM criteria for substance use disorders and Wisconsin UPC guidelines. Write treatment plans based on evaluation findings. Learners will complete interview and documentation practice, along with reading, written assignments and exams. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-110 Theories & Methods of AODA Trt and 550-121 Info Mgmt for Prev & Treatment (or taken concurrently) and 550-160 Psychiatric Disease and AODA (or taken concurrently) and 801-197 Technical Reporting and 550-154 Culturally Skilled Counseling and 806-177 Gen Anatomy & Physiology (or taken concurrently).

**550-120 Family & Community Systems** 3 cr  
An introduction to the systems view of family. Identify family-centered approaches, including brief solution-focused therapy, in preventing and treating substance abuse. Learners draw on their own family system to learn how to use genograms and evaluate family life cycles in the larger context. Learners read textbooks, complete written assignments and exams, practice family therapy approaches, and complete a genogram presentation. Prerequisite(s): 550-110 Theories & Methods of AODA Trt and 550-154 Culturally Skilled Counseling and 550-102 AODA Counseling/Interviewing and 550-111 Group Facilitation and 809-196 Intro to Sociology.

**550-121 Info Mgmt for Prev & Treatment** 2 cr  
Lecture and laboratory activities focus on the collection, entry, storage and retrieval of health information. Learners are introduced to the record keeping responsibilities of substance use disorder health care providers including legal mandates (42 CFR Part 2 and HIPAA), agency accreditation requirements, managed care, utilization review and various

payment systems, level of care documentation, health care record entries, and grant writing. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-110 Theories & Methods of AODA Trt and (801-197 Technical Reporting).

**550-122 Pharmacology-Substance Abuse** 3 cr  
Knowledge areas covered include basic concepts of pharmacology related to substance use disorder patients; advantages, disadvantages of different dosages; drug entities based on pharmacology-therapeutic classification; street names, generic, and brand names; pharmacology, mechanism of action, pharmacokinetics, use cautions, chronic-acute toxicity, symptoms of withdrawal; drug interactions; dosage, and administration. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-110 Theories & Methods of AODA Trt and 806-177 Gen Anatomy & Physiology (or taken concurrently).

**550-150 Issues-Internship II Seminar** 3 cr  
A series of eight 6-hour workshops conducted concurrently with Internship Advanced I and Internship Advanced II. Core function development at the internship sites is enhanced through this classroom experience as learners review ethical codes, complete the SAC-IT licensure process, evaluate themselves as counselors-in-training, develop personal learning plans that mimic treatment plan format, process the developmental stages of the internship experience, complete the SAC licensure exam, address sample cases, complete a written case study, and prepare for graduation and employment or further education. Co-requisite(s): 550-106 Internship Advanced I and 550-107 Internship Advanced II.

**550-154 Culturally Skilled Counseling** 3 cr  
Learners develop an understanding of diversity among people and systems so they can provide substance use disorder counseling services that respond to the differences between and within cultures relative to norms, values, beliefs, communication styles, world views, and political, social, and historical factors. Learners also begin to recognize individual and institutional racism and prejudice, bias in professional training, racial identity development, and cultural competency issues in the substance use disorder counseling profession. Learners engage in self-examination, discussion, class and community activities, and relate these concepts to individualized treatment planning for the substance use disorder patient based on national CLAS standards outlined by the U.S. Office of Minority Health. Prerequisite(s): 550-108 Substance Use: Risk & Reality and 550-113 Intro to Prev & Trtmt Profession and 550-114 Ethics & Public Policy and 809-198 Intro to Psychology and 550-102 AODA Counseling/Interviewing (or taken concurrently) and 550-110 Theories & Methods of AODA Trt (or taken concurrently).

**550-160 Psychiatric Disease and AODA** 3 cr  
Relying heavily on an understanding of DSM criteria, learners study basic concepts of common mental disorders and therapeutic approaches, medications, and resources to provide holistic health care for patients with substance use disorders and co-occurring mental health problems. Prerequisite(s): 550-102 AODA Counseling/Interviewing and 550-110 Theories & Methods of AODA Trt and 550-161 AODA and Corrections and 809-188 Developmental Psychology and 550-154 Culturally Skilled Counseling and 806-177 Gen Anatomy & Physiology (or taken concurrently).

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**550-161 AODA and Corrections** 3 cr  
An introduction to understanding and treating the substance use disorder patient who is also a criminal justice offender. Learners develop an understanding of how substance use issues impact major areas of the criminal justice offender patient's life. Focus is on understanding how the criminal justice system and the cognitive distortions of criminal thinking affect assessment and treatment planning for the patient. Prerequisite(s): 550-113 Intro to Prev & Trtmt Profession and 550-114 Ethics & Public Policy and 801-196 Oral/Interpersonal Comm and 809-198 Intro to Psychology and 550-108 Substance Use: Risk & Reality.

## 601-Air Cond & Refrig Technology

**601-100 Basic HVAC Concepts** 2 cr  
This course deals with how air is treated by HVAC (Heating, Ventilating, and Air Conditioning) equipment to maintain health and comfort. It will assist the beginning or less experienced comfort specialist in understanding the principles that underlie present day heating, ventilation, and air conditioning equipment, both residential and commercial.

**601-101 Refrigeration Systems** 2 cr  
Fundamentals of refrigeration and air conditioning systems. Refrigerant reclamation, soldering, and brazing, piping, and installation of systems.

**601-110 Principles of Heat & Air Flow** 4 cr  
Gas, oil, and electric heating systems are evaluated and tested. Major components and controls of each heating system are detailed. Operation, service and maintenance are performed on a variety of heating systems. Evaluating the proper airflow patterns for a variety of applications is emphasized. The main objective is to assist the technician to work on a variety of heating systems once the course is completed. Prerequisite(s): 601-141 Electricity-HVAC (or taken concurrently).

**601-111 Principles of Refrigeration** 2 cr  
The purpose of the course is to assist the student in developing and understanding of the basic refrigeration system. Proper use of tools and test equipment for installation and servicing of domestic and commercial refrigeration systems is covered in detail. Soldering, Brazing and flaring of copper tube systems is an essential skill developed in this course. The safe handling of refrigerants along with EPA refrigerant handling certification is a priority. Prerequisite(s): 601-141 Electricity-HVAC (or taken concurrently) or 401-351 Basic Electricity HVACR.

**601-112 Principles of Air Handling** 4 cr  
The purpose of this course is to inform the student about air and analyzing its properties. The study of fans, fan laws, system balancing, duct layout and sizing is detailed. The students are given the opportunity to work on a variety of air handling systems. Prerequisite(s): 601-110 Principles of Heat & Air Flow and 601-161 HVAC Load Calc & Psychrometric.

**601-113 HVAC Systems Design** 3 cr  
In this course the student designs air conditioning, heating, and ventilation systems for commercial buildings. The building may be an office building, school, hotel, etc. The student performs room by room load calculations, duct layout and pipe sizing, and equipment

selection. This course runs concurrently with Drafting HVAC (601-117). The system is designed in accordance with the International Code as modified by the state of Wisconsin. Prerequisite(s): 601-112 Principles of Air Handling and 601-161 HVAC Load Calc & Psychrometric. Co-requisite(s): 601-117 Drafting-HVAC.

**601-114 Plan & Print Reading** 2 cr  
In this course the fundamentals of reading and interpreting architectural, plumbing, HVAC, and electrical plans for the sizing and installation of equipment is covered. Working with actual plans of actual buildings the student is able to understand all aspects of basic plan reading. The International Code as modified by the State of Wisconsin is studied by the students giving them the necessary skills for proper system layout and design.

**601-115 Renewable Energies for HVAC** 1 cr  
The purpose of this course is to introduce the student to renewable energy sources and emerging careers in renewable energy. Students will examine geothermal, photovoltaic, solar thermal systems, green building, wind power and others. Basic design, function, cost and other considerations associated with renewable energy sources will be evaluated. Restricted to students admitted to the following program(s): 10-601-1 Air Cond, Heating & Refrig Tech, 31-401-1 Enviro, Ref, A/C, Htg Srv.

**601-116 Principles of Air Conditioning** 2 cr  
The purpose of this course will help the student understand how air is treated by air conditioning equipment to maintain our health, comfort, and cooling environment. The principles of air conditioning will be covered with a look at various types of air conditioning equipment. Equipment included would be air conditioners, heat pumps (geothermal and air-to-air) rooftops and other types of related equipment. This course will assist the student in understanding the principles that underlie present day air conditioning equipment, both residential and commercial. Prerequisite(s): 601-141 Electricity-HVAC (or taken concurrently).

**601-117 Drafting-HVAC** 2 cr  
In this course the student draws the HVAC system for a commercial building using CAD. The building may be an office building, school, hotel, etc. The student creates duct layout and piping drawings, equipment schedules, and details for the HVAC System Design (601-113) class. All equipment is selected by the student, and the system designed in accordance with the International Code as modified by the state of Wisconsin. Prerequisite(s): (601-165 CAD - HVAC or 606-165 CAD - HVAC). Co-requisite(s): 601-113 HVAC Systems Desig.

**601-118 Sustainability for HVAC** 2 cr  
The purpose of this course is to answer the question, what is sustainability? The student will explore how sustainability is integrated into HVAC/R systems and building management systems. Improving efficiencies in systems and buildings would be the major goal.

**601-119 Hydronic/Geothermal Sys Design** 3 cr  
This course consists of the design and selection of modern hydronic heating systems and geothermal heat pumps. This course (specifically designed for HVAC/R students) studies the way which different components are connected, which translates in energy efficient operating

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systems. Detailed coverage of open and closed loop geothermal heat pump systems is covered. Systems analyzed include various heat sources, piping and fittings, circulating pumps, heat emitters, radiant panel heating, distribution piping, expansion tanks, air removal, and auxiliary loads. The student will perform sizing, layout, and design of complete systems. Restricted to students admitted to the following program(s): 10-601-1 Air Cond, Heating & Refrg Tech.

## **601-120 Geothermal/Solar Applications** **2 cr**

This course provides an overview of geothermal and solar applications. Students will be involved in the maintenance, service and performance of these systems. Open and closed loop geothermal heat pump systems are evaluated. The advantages and disadvantages of series and parallel flow configurations are explained. Passive and active solar systems will be reviewed. The declination angle and the effect it has on the sun's radiation during winter and summer is detailed.

## **601-121 HVAC/R Service & Applications** **3 cr**

Students learn the techniques to install, test, maintain, and troubleshoot residential and commercial air conditioning and refrigeration systems. Students will have the benefit of learning in a well-equipped lab that provides experience on both residential and commercial air conditioning and refrigeration systems. Equipment such as heat pumps (geothermal and air-to-air), rooftop air conditioners, walk-in freezers and furnaces, boilers, and other HVAC/R types of equipment will be worked on. Prerequisite(s): 601-111 Principles of Refrigeration and 601-116 Principles of Air Conditioning and 601-141 Electricity-HVAC. Restricted to students admitted to the following program(s): 31-401-1 Enviro, Ref, A/C, Htg Srv, 10-601-1 Air Cond, Heating & Refrg Tech.

## **601-125 Safety - HVAC** **1 cr**

This course provides OSHA based safety training for the HVAC industry. Restricted to students admitted to the following program(s): 10-601-1 Air Cond, Heating & Refrg Tech, 31-401-1 Enviro, Ref, A/C, Htg Srv.

## **601-130 Sheet Metal Layout** **1 cr**

The student will layout and fabricate a variety of sheet metal fittings. Safe working practices are reviewed and stressed. The proper use of hand tools, shears, benders and other types of sheet metal equipment are detailed and demonstrated. One and two piece duct, reducers, elbows, offsets, plenums, drive cleats, S-locks, and square to round transitions are fabricated and assembled.

## **601-141 Electricity-HVAC** **3 cr**

The fundamentals of electricity/electronics with application to air conditioning, heating, and refrigeration will be covered in this course. An introduction to alternating and direct current and the physical laws that apply to electrical circuits are covered. Ohms law and its properties are detailed. The student will acquire an understanding of electrical meters, motors, and controls as used in the HVAC/R industry.

## **601-142 Schematic Wiring-HVAC** **2 cr**

Learning to read and interpret electrical schematics found on a variety of HVAC/R equipment is the priority. By referring to an electrical schematic the student wires and operates HVAC/R equipment. The course helps in explaining and showing how each electrical component functions in an electrical circuit. Prerequisite(s): 601-141 Electricity-HVAC.

## **601-143 Advanced HVAC Controls** **3 cr**

The purpose of this course is to review the basic concepts of a HVAC control system. Becoming familiar with the components of a direct digital control (DDC) and pneumatic control system are a priority. The student becomes familiar with analog and binary inputs and outputs. Programming and evaluating control schemes as found on HVAC equipment is the main emphasis. Prerequisite(s): 601-141 Electricity-HVAC and 601-142 Schematic Wiring-HVAC.

## **601-151 Technical Problems-HVAC** **3 cr**

This course utilized the knowledge gained in previous courses. The student will be asked to diagnose and solve a variety of electrical and mechanical problems found on actual HVAC/R equipment. These problems are also simulated using computer programs, the student completes detailed analysis on rooftops, heat pumps, supermarkets, gas furnaces, oil furnaces, and boilers. Prerequisite(s): 601-110 Principles of Heat & Air Flow and 601-111 Principles of Refrigeration and 601-141 Electricity-HVAC and 601-116 Principles of Air Conditioning. Restricted to students admitted to the following program(s): 31-401-1 Enviro, Ref, A/C, Htg Srv, 10-601-1 Air Cond, Heating & Refrg Tech.

## **601-161 HVAC Load Calc & Psychrometric** **3 cr**

Computer software is used to calculate heat loss and heat gains on residential and commercial buildings. Prerequisite: 854-771 Basic Algebra. Restricted to students admitted to the following program(s): 10-601-1 Air Cond, Heating & Refrg Tech, 31-401-1 Enviro, Ref, A/C, Htg Srv.

## **601-165 CAD - HVAC** **3 cr**

This course is designed to teach the basic elements of computer-aided drafting using AutoCAD software. The student learns how the system operates, basic entity control, editing functions, dimensioning, plotting, and template setups. The drafting commands are practiced by creating specific HVAC field related drawings. Individual study supported by short lectures and monitored drawing times supervised by instructors. Prerequisite(s): (601-114 Plan & Print Reading (or taken concurrently) or 607-114 Plan and Print Reading-HVAC).

## **602-Automotive Technology**

### **602-199 Intro to Automotive Teaching** **2 cr**

This course will examine the roles, goals, and objectives of laboratory courses in Automotive Education. Direct laboratory experience in creating, completing, and evaluating hands-on activities. An emphasis will be placed on multiple-student teaching techniques both in the laboratory and classroom setting.

## **605-Electronic Technology**

### **605-107 Basic Electronics** **3 cr**

DC and AC circuit analysis from an electromechanical perspective. Topics covered include Ohm's Law, Watt's Law, series and parallel circuits, transformers and relays. Emphasis will be placed on troubleshooting and measurement of circuit parameters. Prerequisite(s): (804-113 College Technical Math 1A (or taken concurrently) or 804-196 College Technical Math 1A (or taken concurrently) or 804-141 Applied Algebra (or taken concurrently) or (804-115 College Technical Math 1

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(or taken concurrently) or 804-195 College Technical Math 1 (or taken concurrently) or 804-151 Technical Math 110 (or taken concurrently).

## **605-108 Devices & Digital** **3 cr**

Electronic circuits and digital electronics from an electromechanical perspective. Topics covered include electronic switching devices, operational amplifiers, D-A and A-D conversions and basic digital circuits and systems. Emphasis will be placed on installation considerations, compatibility with other devices and troubleshooting. Prerequisite(s): 605-107 Basic Electronics.

## **605-109 Industrial Computer Technology** **3 cr**

This course examines the personal computer and associated networks as it applies to the industrial environment. Computer architecture, hardware requirements and limitations, and troubleshooting are emphasized, as are the networking requirements to maintain information flow between the production floor and the business administrative functions. Prerequisite(s): 620-193 Electronic Software Applic.

## **605-123 Computer Hardware** **4 cr**

This course addresses the fundamentals of personal computer(PC) workstations hardware systems and the integration of operating systems used by business and industry into those systems. Course topics include: integration, configuration, troubleshooting, and documentation of PC subsystems including motherboard architecture, form factors, power supplies, IDE devices and removable storage, system memory, multimedia devices, I/O devices, BIOS and boot process, and video/display fundamentals. Additionally, the integration, configuration, troubleshooting, and documentation of commonly used (current and legacy) operating systems, as they relate to system hardware, is explored. Prerequisite(s): 150-123 IT Networking Concepts and (605-102 Electronic Concepts or 605-134 Network Infrastructure Concepts). Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist.

## **605-134 Network Infrastructure Concepts** **2 cr**

This course provides students an overview of the fundamentals of the infrastructure elements that support computer networks and devices. Learners will study the basics of network cable installation and termination, meter usage, direct current (DC) circuits, alternating current (AC) circuits, AC wiring, uninterruptible power supply (UPS) selection, power conditioning, power management, power over Ethernet (POE), and digital logic. The course will be delivered via a combination of reading and homework assignments, lecture/discussion sessions, and hands-on laboratory exercises. Emphasis will be placed on safety and compliance with industry standards. Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist.

## **605-152 SCADA Concepts** **2 cr**

SCADA stands for Supervisory Control And Data Acquisition. This course will focus on industrial applications of acquiring data from PLC based equipment using industrial and Ethernet networks. Display of data will use industrial display terminals such as the Allen-Bradley Panel View and Microsoft Excel spreadsheet using DDE technology. Additional applications utilizing ASCII text strings and HyperTerminal will be investigated. Prerequisite(s): 620-136 PLC Applications.

## **606-Mechanical Technology**

### **606-102 Technical Drafting-CAD** **3 cr**

This course is designed to teach the fundamentals of computer-aided drafting principles from standard practices. AutoCAD software is used for technical drawing; topics include computer drawing entity commands, coordinate features, various editing functions, file maintenance, database management, prototype drawing, mechanical design dimensioning practices, the use of blocks, using library symbols, two-dimensional CAD design details, and printing or plotting. Detailed working drawings follow general dimensioning practices found in ASMEY14.5-2009.

### **606-104 Geometric Dimen & Tolerancing** **3 cr**

Geometric dimensioning and tolerancing (GD&T) graphically defines limits of size, form, orientation, profile, location, and runout applications to ASME Y14.5-2009. GD&T standards include universal symbols and terms, position tolerancing verification, datum reference frame theory, datum (size) modifiers, datum targets, metrology and functional gage design application using a coordinate measuring open setup. Measurement of floating and fixed fasteners is applied to actual mechanical parts. GD&T will also be applied to welding fabrication drawings and assemblies.

### **606-116 Hydronic Systems Design** **3 cr**

This course consists of the design and selection of modern hydronic heating systems. These procedures are necessary to fulfill the total design requirements of modern residential and light commercial buildings. This course (specifically designed for HVAC students) studies the various means by which different hydronic components are connected to the hydronic systems, which translated into energy efficient operating systems of interconnected hardware. Systems analyzed include various heat sources, piping and fittings, circulating pumps, heat emitters, radiant panel heating, distribution piping, expansion tanks, air removal, and auxiliary loads. The student will perform sizing, layout, and design of complete hydronic heating systems. Prerequisite(s): 606-165 CAD - HVAC (or taken concurrently).

### **606-130 Solid Modeling I** **3 cr**

This course introduces the student to the concepts and commands required to develop 3-D solid models using SolidWorks software. Students will learn to constrain models and develop parametric models. Students will also produce 2-D working drawings from the models. Topics will also include dimensioning, orthographic views, and section views.

### **606-131 Solid Modeling II** **3 cr**

The student will develop complex parametric models, assemblies, and working drawings, apply drawing standards, materials, and tabulated dimensions. Part families, sheet metal parts, welded assemblies, exploded assemblies, software generated bills of material, and simple animation will also be covered. Prerequisite(s): 606-130 Solid Modeling I.

### **606-160 Mfg. Materials Processes** **3 cr**

Manufacturing materials includes the study of metals, plastics, elastomers, woods, ceramics, glass, composites, cement, and concrete properties. Manufacturing processes include mechanical tool cutting,

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machining, electrochemical milling, photochemical etching, laser machining, casting, fabricating, joining, heat treating, and secondary finishing operations. Automation applications such as robotics, and computer integrated technologies are also included with local case studies of industry. Applications and fundamental inspection techniques associated with the various materials are explored. Restricted to students admitted to the following program(s): 10-623-8 Manufacturing Eng Technologist, TC-606-2 CAD Operator.

**606-161 CAD, Basic 3 cr**  
Basic computer-aided drafting and design (CAD) uses two-dimensional AutoCAD software and commands to create entities, edit, store, and print CAD drawings. Topics include entity creation of arcs, circles, lines, coordinates, editing functions, scaling, making templates, text detailing, layers and lin types, viewpoints, modelspace layout and paperspace practices, dimensioning styles, calculation strategies, blocks, groups, libraries, attributes, bills of materials, and plotting to scale. A final project permits the student to apply technical skills to a detailed mechanical design drawing. All assignments are documented within an AutoCAD portfolio.

**606-165 CAD - HVAC 3 cr**  
This course is designed to teach the basic elements of computer-aided drafting using AutoCAD software. The student learns how the system operates, basic entity control, editing functions, dimensioning, plotting, and template setups. The drafting commands are practiced by creating specific HVAC field related drawings. Self-paced using a tutorial style textbook. Individual study supported by short lectures and monitoring by instructors. Grade level determined by quality and quantity of drawing assignments that are completed. Prerequisite: 854-771 Basic Algebra, high school algebra or equivalent. Prerequisite(s): 607-114 Plan and Print Reading-HVAC (or taken concurrently).

**606-185 Blueprint Reading 1 cr**  
This course is designed with an emphasis on electromechanical technology related to automation, design, and manufacturing technology. Topics include orthographic projection and sketching, pictorial drawings, standard line types, title blocks, dimensioning, tolerancing, surface texture, threads, gearing design, section views, materials of the trade, computer-aided drafting (CAD), and computer automation used in manufacturing.

**606-199 Solid Modeling 1 - Ind Study 3 cr**  
This course is designed to offer the student customized instruction which may include assemblies with part models and drawings.

## 607-Civil Engineering Technology

**607-100 Draft Fund/Wood Frame Const 3 cr**  
This course is designed to introduce basic drafting standards. The first part of the course is devoted to developing acceptable drafting techniques and line standards along with the study of two dimensional and three dimensional concepts. Emphasis is placed on developing visual and sketching techniques. Attention is then directed to the application of these drafting standards to trade related problems. In this section of the course, the student will design and draw a complete set of working drawings for a residence in accordance with industry standards. A study of the various drafting standards will be incorporated

as the subject matter dictates. The general emphasis in this course will be to merge theory and trade practice. Meet COMPASS math test cutoff score. Prerequisite: High School Algebra or 854-771 Basic Algebra. Restricted to students admitted to the following program(s): 10-607-5 Civil Engineering Tech-Struc.

**607-111 Architectural Drafting I 3 cr**  
This course provides instruction in commercial architectural drafting. Emphasis is placed on drafting techniques; lettering; and drafting of details, plans, elevations, and sections. The student develops a set of architectural plans for a small commercial building. Studies of building code requirements, utility applications, and selection of construction materials are made in development of the plans. Prerequisite(s): 607-100 Draft. Fund./Wood Frame Const. and 607-140 Structural Analysis and 607-125 Mechanical Systems or (607-164 CAD Civil or 606-161 CAD, Basic or 606-161C Basic CAD, Level III). Co-requisite(s): 607-117 Revit Architecture.

**607-112 Drafting HVAC 2 cr**  
In this course, the student draws the HVAC system for a two-story commercial building of his or her choice. The building may be an office building, school, hotel, etc. The student creates duct layout and piping drawings, equipment schedules, and details for the HVAC system that he or she designs in HVAC Systems Design class. All equipment is selected by the student, and the system is designed in accordance with the International Code as modified by the state of Wisconsin. Prerequisite(s): 606-165 CAD - HVAC and 607-114 Plan and Print Reading-HVAC. Co-requisite(s): 601-113 HVAC Systems Desig.

**607-113 Architectural Drafting II 3 cr**  
The classroom simulates a natural architectural drafting room. A design is developed by the student and then the student prepares presentation drawings. After the presentation drawing phase, the student will develop these ideas into working drawings. These drawings will include floor plans, schedules, wall sections, and details. The student will also learn the fundamentals of drawing additions and remodeling and specification writing. Prerequisite(s): 607-111 Architectural Drafting I and 607-123 Construction Steel and 607-124 Construction Concrete and 607-140 Structural Analysis.

**607-114 Plan and Print Reading-HVAC 2 cr**  
The fundamentals of reading architectural drawings and learning the Wisconsin Administrative Code. Prerequisite: 854-771 Basic Algebra, high school algebra or equivalent.

**607-117 Revit Architecture 3 cr**  
The mission of this course is to provide the student with an opportunity to explore enhancements which can be added to AutoCAD. The student will develop additional AutoCAD skills, develop problem-solving strategies, increase his/her efficiency, and cope with change in his/her software environment. The student will use this program for creating plan views, sections, elevations, and details. Prerequisite(s): 607-100 Draft. Fund./Wood Frame Const. and (606-161 CAD, Basic or 607-164 CAD Civil or 606-161C Basic CAD, Level III). Co-requisite(s): 607-111 Architectural Drafting I.

**607-123 Construction Steel 3 cr**  
This course covers the selection and design of structural steel materials

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that might be used in the construction of a commercial or industrial building. Special emphasis is placed upon using the AISC Manual of Steel Construction 13th Edition and the Steel Joist Institute's latest Standard Specifications Load Tables and Weight Tables for Steel Joists and Joist Girders in learning to design and select steel beams, columns, joists, base plates, bearing plates, and lintels used in commercial and industrial roof and floor systems. The student will also learn the proper methods used to create the structural design drawings. Prerequisite(s): 607-100 Draft. Fund./Wood Frame Const. and 607-140 Structural Analysis and 607-125 Mechanical Systems and (606-161 CAD, Basic or 606-161C Basic CAD, Level III or 607-164 CAD Civil).

## **607-124 Construction Concrete 2 cr**

This course familiarizes the student with concrete construction. The student calculates size and draws details of concrete footings, foundation walls, floor and roof systems, and stairways. Concrete cylinders are tested and analyzed in the laboratory. Prerequisite(s): 607-100 Draft. Fund./Wood Frame Const. and (606-161 CAD, Basic or 606-161C Basic CAD, Level III or 607-164 CAD Civil).

## **607-125 Mechanical Systems 3 cr**

This course consists of the selection and installation of mechanical equipment necessary to fulfill the total design requirements of modern civil-structural technology. This course will study the various means by which these requirements are translated into operating systems of interconnected hardware. Systems analyzed will include various commercial plumbing systems (sanitary drainage, storm drainage, and fire protection systems) and HVAC (heating, ventilating, and air conditioning) systems. Prior to studying these systems, basic introductory information on such topics as the structural-mechanical relationship, physical considerations for mechanical systems, plumbing codes, plumbing specifications, plumbing fixtures, plumbing materials, and pipe drafting symbols will be studied. Students will produce mechanical systems plans, sometimes with accompanying schematic drawings, during each unit of instruction. These mechanical systems plans will relate to a small commercial office building. Meet COMPASS math test cutoff score. Prerequisite: High School Algebra or 854-771 Basic Algebra. Prerequisite(s): 607-100 Draft. Fund./Wood Frame Const. (or taken concurrently) and 607-164 CAD Civil (or taken concurrently). Restricted to students admitted to the following program(s): 10-607-5 Civil Engineering Tech-Struc.

## **607-130 Fundamentals of Surveying 2 cr**

An elementary course in surveying, including the fundamentals of plane surveying and care of equipment. The course includes theory and field problems in distance measuring, leveling, measuring vertical and horizontal angles, topographical surveying, and construction location surveying. Prerequisite(s): 804-106 Intro to College Math.

## **607-140 Structural Analysis 4 cr**

This course introduces the first-year Civil-Structural student to the basic principles of structural mechanics and design, with special emphasis placed upon application of these principles in the design and construction of commercial buildings. Detailed solutions to a number of problems in basic structural engineering are presented. Mastery of the material presented in this course is critical to the successful completion of subsequent design courses in the Civil Engineering Technician-Structural program. Restricted to students admitted to the following program(s): 10-607-5 Civil Engineering Tech-Struc.

## **607-148 Structural Drafting I 4 cr**

In this course, the student gains a basic understanding of structural steel sections, terms, abbreviations, and symbols used by structural steel fabricators and by structural steel erectors. The student makes steel erection plans, anchor rod plans, and detailed shop fabrication drawings of structural steel beams and columns. Special emphasis is placed on the design of bolted and welded structural steel connections. The student becomes familiar with Detailing for Steel Construction and the Manual of Steel Construction-Allowable Stress Design-13th Edition, which are both published by the American Institute of Steel Construction. The student then learns how to solve typical design problems related to steel framing and steel construction using these design manuals.

Prerequisite(s): 607-111 Architectural Drafting I and 607-123 Construction Steel and 607-124 Construction Concrete and 804-116 College Technical Math 2.

## **607-149 Structural Drafting II 2 cr**

This course is a continuation of Structural Drafting I. In the first part of this course, the student learns how to detail structural support frames and bracing using structural steel. In the second part of this course, the student learns how to detail skewed beams, which are very common in non-rectangular framing. Prerequisite(s): 607-148 Structural Drafting I.

## **607-151 Tech Problems-Civil Structural 3 cr**

In this course, the student continues to design a commercial building project which is started in Architectural Drafting II. This course utilizes the knowledge gained in previous courses. He/she prepares a complete set of working drawings necessary to construct a commercial or industrial building, including the architectural plans and details and structural plans and details. This project also includes all required design calculations. The structural design calculations are typical of those that arise daily in actual design office practice. Prerequisite(s): 607-113 Architectural Drafting II and 607-148 Structural Drafting I and 607-152 Construction Methods and 607-155 Surveying & Site Planning.

## **607-152 Construction Methods 2 cr**

This course coordinates information and understanding developed in Construction Concrete and Structural Analysis and expands previous learning into a systematic study of applied design procedures for commercial construction projects using reinforced concrete for their structural support. The content of this course and the presentation of the material are geared toward the development of an orderly and systematic procedure of solving applied reinforced concrete design problems and the ability to use good judgment and practical considerations in the choice, design, and erection of reinforced structures. Prerequisite(s): 607-140 Structural Analysis and 607-111 Architectural Drafting I and 607-124 Construction Concrete.

## **607-155 Surveying & Site Planning 4 cr**

An elementary course in surveying, including the fundamentals of plane surveying and care of equipment. The course includes theory and field problems in distance measuring, leveling, measuring vertical and horizontal angles, topographical surveying, and construction location surveying. Land descriptions used in the United States are studied. The last unit of study is devoted to soil mechanics. Prerequisite(s): 607-111 Architectural Drafting I and 804-116 College Technical Math 2.

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## **607-160 Model Based Steel Detailing**

**3 cr**

In this course, the student learns how to detail miscellaneous structural steel and how to use AutoSD and SDS/2 steel detailing software, two of the more advanced CAD drafting systems used by structural steel detailers in the industry today. The fourth semester student first learns how to detail miscellaneous structural steel by detailing the remaining items from his or her Structural Drafting I project, which makes that project complete to industry standards. Then the student uses the AutoSD steel detailing software to complete a variety of detailed shop drawings for structural steel beams, columns, and miscellaneous steel. Next he or she advances into producing steel erection and anchor rod plans using the AutoSD software. The student then goes through basic training on the SDS/2 steel detailing software, and once this training is complete he or she uses the SDS/2 software to produce structural steel detail and erection drawings for all the structural steel items in his or her technical problems project. Prerequisite(s): 607-140 Structural Analysis and 607-148 Structural Drafting I.

## **607-164 CAD Civil**

**3 cr**

This course is designed to teach individuals interested in learning the fundamentals of computer-aided drafting using AutoCAD software. The student learns how the system operates, basic entity creation, modifying operations, text styles, dimensioning, blocks, plotting, etc. At the conclusion of the course, the student should have developed basic skills relating to computer-aided drafting and should be able to use CAD on advanced projects in future classes. Prerequisite: Two credits of high school drafting fundamentals or equivalent. Restricted to students admitted to the following program(s): 10-607-5 Civil Engineering Tech-Struc.

## **607-180 Intro to Revit Architecture**

**2 cr**

The student will learn the fundamentals of the Revit Architectural modeling software. The student will use this software to develop a building model and then create plans, sections, elevations and details from the model.

## **612-Fluid Power Technology**

### **612-101 Related Fluid Power**

**2 cr**

Overview of basic components, applications, and circuitry involved in hydraulics and pneumatics. Lecture and lab experiences involving pumps, valves, cylinders, fluids, and conditioners; basic theory and circuitry.

## **620-Electromechanical Technology**

### **620-101 Automated Processes**

**2 cr**

Electromechanical systems and processes used in modern manufacturing facilities. An overview of the manufacturing environment and the role of the electromechanical technician in that environment.

### **620-130 Industrial Elec Concepts**

**3 cr**

This course introduces the student to basics of electricity needed by the industrial mechanic. Included are basic electrical theory, operation and use of the Volt-Ohm meter, AC and DC electric motors, motor controls and wiring, and applications as needed to install, operate, and control industrial machines. Through classroom and laboratory activities,

students can develop a practical understanding of electrical components, control, and operation. Restricted to students admitted to the following program(s): 31-462-2 Industrial Mechanic.

### **620-135 PLC Introduction**

**2 cr**

Principles of programmable logic controllers (PLCs) including programming the PLCs, creating basic ladder logic circuits containing basic logic functions, timers, counters, and sequencers. Emphasis is on basic PLC functions to assist one in servicing and troubleshooting PLC controlled equipment. The Allen Bradley PLC 5/03 and Micrologix family of PLCs are used. May get instructor approval instead of taking prerequisite(s). Prerequisite(s): (620-155 Industrial Electronics I and 620-193 Electronic Software Applic) or (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept).

### **620-136 PLC Applications**

**3 cr**

Design and add documentation to ladder logic programs to solve application problems. PLC applications examples as used in industry will be programmed on real industry equipment utilizing a wide variety of various sensors, photoelectric, proximity, motor drives, and control devices creating working automated systems. Prerequisite(s): (620-135 PLC Introduction and 620-156 Industrial Electronics II) or (620-130 Industrial Elec Concepts or 414-343 Industrial Electricity Concept and 620-135 PLC Introduction).

### **620-144 Applied EM Machine Principles**

**2 cr**

Basics of power transmission equipment operation, maintenance, and repair as applied to industrial machines, robots, and manufacturing line systems.

### **620-145 Industrial Robotics Systems**

**2 cr**

Terminology, concepts, and components of robots, robot-type machines, and automation. Emphasis will be on interfacing automated machinery. Prerequisite(s): 620-156 Industrial Electronics II.

### **620-146 Machine Troubleshooting Tech**

**2 cr**

Hands-on troubleshooting of PLC, CNC, robotic, and automated control systems. Yields experience in finding failures in electrical, pneumatic, power, and computer concepts. Prerequisite(s): 612-101 Related Fluid Power and 620-136 PLC Applications and 620-144 Applied EM Machine Principles and 620-145 Industrial Robotics Systems.

### **620-147 Control Applications**

**2 cr**

Hands-on in building an automated process controlled by a PLC computer system. Interfacing sensors to detect product types and interfacing motors and solenoids, to control motion. Gives real world interface and wiring situations. Prerequisite(s): 612-101 Related Fluid Power and 620-136 PLC Applications and 620-144 Applied EM Machine Principles and 620-145 Industrial Robotics Systems.

### **620-148 EM System Interfacing**

**4 cr**

Hands-on interfacing of PLC's, operator interfaces, sensors, and various automated equipment to create a work cell level of automation. Gain experience in programming, wiring, and configuration. Learn the troubleshooting and programming of a more complex process. Prerequisite(s): 612-101 Related Fluid Power and 620-136 PLC Applications and 620-144 Applied EM Machine Principles and

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620-145 Industrial Robotics Systems and (420-190 Machine Tool Processes or 620-190 Machine Tool Processes) and 620-146 Machine Troubleshooting Tech (or taken concurrently) and 620-147 Control Applications (or taken concurrently).

## **620-150 Instrumentation 2 cr**

The student will learn how to measure the properties of temperature, pressure, flow, and level. Tuning PID loops and troubleshooting instrumentation systems. Transducers and control systems will be taught from a systems approach. Full-size industrial standard components and systems are used. Prerequisite(s): 620-156 Industrial Electronics II and 620-193 Electronic Software Applic.

## **620-155 Industrial Electronics I 2 cr**

Concepts of basic industrial control electronics. Fundamentals of ladder logic and control wiring. Reading and interpreting ladder logic, wiring diagrams, and one-line diagrams used in industry. Using Actrix Technical by Auto Desk to create ladder logic for applications. The importance of using wire numbers and wire color codes in accordance with NFPA 79 (National Fire Protection Association) standards. The students will work with and gain knowledge of the following components: transformers, power supplies, fuses, disconnect switches, circuit breakers, relays, solenoids, pressure switches, limit switches, timers, latching relays, push buttons, and selector switches.

## **620-156 Industrial Electronics II 2 cr**

In-depth concepts of industrial control and power circuits. Counters, temperature controllers, forward and reversing motor starters, contractors and frequency drives. 3-phase AC motors, single-phase, split-phase AC motors, and DC motors. Mounting and wiring of PLCs, designing control systems for easy maintenance, industrial data communication, and quality control. Design, wire, and document control and power circuits to solve application problems. Prerequisite(s): 605-107 Basic Electronics and 620-155 Industrial Electronics I and 620-193 Electronic Software Applic.

## **620-158 Sensors 2 cr**

This course investigates theory, application, and troubleshooting of various sensor technologies including wiring and testing of sensor configurations. This course covers non-contact sensing fundamentals and interfacing. Prerequisite(s): 620-156 Industrial Electronics II and 605-108 Devices & Digital.

## **620-191 Motion Control Applications 3 cr**

The studies the fundamentals of stepper motors including; testing, operation, drivers, indexers, and computer control of motion for use in applications to control X Y motion such as lathes, and X Y Z motion such as control of milling machines. The studies the fundamentals of servo control including; testing motors, optical encoders, servo drivers, and computer control of motion for use in applications to control X Y motion such as lathes, and X Y Z motion such as control milling machines. Prerequisite(s): 605-108 Devices & Digital and 620-156 Industrial Electronics II.

## **620-193 Electronic Software Applic 2 cr**

Consists of an introduction to computer software applications used in the Electronics programs. Topics include an introduction to the following software: MultiSim circuit simulation, MS-Office, and basic DOS/Unix commands to support using simulation software.

## **620-199 Ind Study-Electromechanical 3 cr**

Student may elect to study specific applications in robotics, programming, vision systematic.

## **623-Industrial Manufacturing Tech**

### **623-001A Office Lean .5 cr**

Office Lean is a set of guidelines used to improve office functions by eliminating waste and bottlenecks. The benefits of Office Lean include a include reduction of paperwork, improved communication, improved cash flow, increased efficiency and speed up delivery. By applying Lean techniques, participants will help to transform the chaos of complex scheduling, excessive material handling, and poor communication into efficient and orderly procedures.

### **623-100 Principles of Industrial Eng 3 cr**

Emphasis will be on the importance of increasing productivity in an organization. Methods used in problem-solving in areas such as facilities layout, material handling, quality assurance, operations planning, project management, work analysis, and management systems will be studied.

### **623-108 Intro to Mfg Lab Science 3 cr**

Introduces the learner to beginning laboratory concepts and procedures. Emphasis will be placed on general laboratory safety, basic equipment utilization, and calibration techniques. An Introduction to scientific inquiry will be addressed. Proper techniques in documentation as it relates to quality control in verification of a quality system will be introduced. Concepts in data analysis will be reviewed as it relates to creation of laboratory notebook. Restricted to students admitted to the following program(s): 10-623-1 Industrial Engineering Tech, 10-635-1 Nano Engineering Technology.

### **623-110 Haz Analysis & Crit Cntrl Pts 2 cr**

This class develops knowledge to be able to identify the critical safety issues involved in the handling, processing, packaging and sanitation control for safe food products. Students will learn about current HACCP methodology and will develop record keeping and verification skills needed for the implementation and maintenance of a HACCP plan. Case studies in poultry, dairy processing, cheese, meat, and thermal vegetable processing will be examined. Prerequisite(s): 806-115 Food Microbiology.

### **623-112 Manufacturing Food Processes 2 cr**

This course provides knowledge of the competencies needed for food handlers, operators, technicians and supervisors of food operations. Food production and processing such as: dairy production processes, canneries, meat processing, poultry and egg processing, dried food packers, breweries and wineries. Prerequisite(s): 623-108 Intro to Mfg Lab Science. Restricted to students admitted to the following program(s): 10-623-1 Industrial Engineering Tech.

### **623-114 Industry Practicum 3 cr**

The student will conduct 216 hours in an onsite work environment in the food processing, electronics fabrication or other micro/nano technology related work environment. For students unable to coordinate an internship, a practicum opportunity may be available for coordination. Restricted to students admitted to the following program(s): 10-

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635-1 Nano Engineering Technology, 10-623-8 Manufacturing Eng Technologist, 10-623-1 Industrial Engineering Tech.

## **623-116 Lab Electronics** **3 cr**

This course will give the student a basic understanding of electronics as they are used in the laboratory and clean room. Emphasis will be on basic principles of electronics and how those may be applied to understanding the operation and trouble shooting of electronic instruments in the laboratory. This course will also introduce basic fabrication of electronic devices. Prerequisite(s): 623-108 Intro to Mfg Lab Science.

## **623-118 Food Processing Regulations** **2 cr**

This course will examine the Food and Drug Administration and the US Department of Agriculture regulations of meat and food products in the United States and the primary responsibility for the safety of these products. Topics addressed will include other food regulating agencies, food security, genetic modifications, additives, dietary supplements, and food labeling. Prerequisite(s): 623-108 Intro to Mfg Lab Science.

## **623-120 Work Analysis** **3 cr**

Tools and techniques of the time study technician; elements of work, the work place, ergonomics, psychological environment; interpretation of the law of motion economy, division-of-accomplishment concept; quantitative techniques, line balancing.

## **623-125 Statistical Process Control** **3 cr**

The Deming philosophy utilizes statistical techniques to analyze and improve the quality of manufactured goods; statistical concepts enabling operators and managers to make data based quality and productivity improvement decisions.

## **623-130 Lean Fundamentals** **2 cr**

This class provides an introductory study of the Lean Manufacturing philosophy to reduce or eliminate waste in a manufacturing setting. The students will become familiar with the fundamental 5-step process sequence of Lean: 1) Specify value from the customer perspective, 2) Identify the value stream steps for product families and eliminate waste, 3) Improve product flow to increase value creating steps, 4) Improve value connections with upstream customers, and 5) Stabilize processes and continue improvement for waste reduction. Lean terminology and tools used such as 5S will be examined along with the benefits and pitfalls encountered in implementation.

## **623-131 Blueprint Reading & Geom Toler** **2 cr**

Engineering language used on blueprints; interpretation of blueprints; good communication between designer and machinist-manufacturer; use and interpretation of geometric dimensioning on engineering drawings.

## **623-132 Manufacturing Workplace Safety** **2 cr**

Students will identify, analyze, and recommend improvements to work areas to minimize the opportunity for workplace injuries to provide for a safe and secure manufacturing work environment. Learners will demonstrate knowledge of workplace safety standards (federal, state, and workplace compliance) and ergonomics, as well as the processes of incident reporting, investigation and documentation.

## **623-154 Engineering Economy** **3 cr**

Application of interest formulas in financial decision-making; source and application of funds in capital budgeting and replacement decision making; effect of income tax laws on decision alternatives.

## **623-156 Facil Layout & Mat Handling** **3 cr**

Essential elements of plant layout and materials handling; material flow; design of physical arrangement of industrial facilities from individual workplace to comprehensive plant layout.

## **623-161 Tech Problems-Ind Eng Tech** **3 cr**

Independent study of appropriate approved topic; final written report required.

## **625-Quality Interdisciplinary**

### **625-110 Mfg & Quality Assurance** **3 cr**

Develops an overview knowledge of quality assurance to provide instruction in methods for measuring quality within manufacturing processes. Students learn the components of a quality assurance program such as quality goals, benchmarks, leadership, and motivation. This course addresses the philosophies of leaders in the field, industry trends, quality standards (ISO and Six Sigma) and how quality assurance relates to specialties in manufacturing, food, biotechnology, micro/nano electronics, service, and pharmaceuticals. Prerequisite(s): 804-189 Introductory Statistics.

### **625-160 Core Manufacturing Skills** **2 cr**

Today's manufacturing workplace requires employees at all levels to take initiative to solve problems, work cooperatively in teams, and adapt to an ever-changing environment. The Critical Core Manufacturing Skills training targets these areas and more, to empower you to meet current and future production and customer service skills and adaptability skills will be covered. Restricted to students admitted to the following program(s): 10-620-1 Electromechanical Technology, 10-623-1 Industrial Engineering Tech, 32-457-1 Welding Fabrication.

## **635-Nanotechnology**

### **635-100 Fundamentals of Nanoscience** **3 cr**

This course will provide an introduction to the history, tools, materials, and current and emerging applications of Nanotechnology. This will include the study of electron microscopes, scanning probe microscopes and nanomaterials such as carbon nanotubes. The application of Nanotechnology to fields such as electronics, advanced materials, energy, biology, and agriculture will be studied. Prerequisite(s): 806-134 General Chemistry (or taken concurrently). Restricted to students admitted to the following program(s): 10-635-1 Nano Engineering Tech.

### **635-101 Intro to Microfabrication** **3 cr**

The multibillion dollar semiconductor manufacturing industry has revolutionized the world with home computers, cell phones and portable music players. In this hands-on class you will learn how it functions. You will start out learning how pure silicon wafers are made, then progress to the different processes used to put patterns on the wafers, and finally how the wafers are made into computer chips. The basic patterning processes covered are photolithography, etching, and deposition. Also,

# Course Descriptions

in this class you will practice what you are learning about semiconductor manufacturing in CVTC's class 100 cleanroom by creating wafers with your own patterns on them. This course also covers the operating principles of electronic devices such as resistors and transistors.

## **635-103 Lab Science Instrumentation 2 cr**

This course will train students to operate common laboratory instruments used in high technology laboratories. Instruments will include spectroscopy, microscopy and metrology. Instruments used in biological laboratories will also be introduced such as electrophoresis and polymerase chain reaction thermocyclers. Spectroscopy equipment will include ultraviolet, visible, infrared and X-ray. Microscopy will include optical microscopy, electron microscopy and scanning probe microscopy. Other forms of metrology such as reflectometry and profilometry will be included. Students will also learn how to prepare samples for analysis. Prerequisite(s): 623-108 Intro to Mfg Lab Science.

## **635-104 Nano Cell Biology 2 3 cr**

In this course we will study the use of nanotechnology as it applies to biological and agricultural applications. Some examples include biochips used for detecting and identifying DNA and proteins, medical uses of nanotechnology for drug delivery and medical imaging, mimicking biological systems to develop catalysts, nanoscale movement and information systems. We will study nanotechnology for agricultural applications such as ethanol production, sorbitol based fuel cells, genetics, and uses of cellulose. Prerequisite(s): 635-118 Intro to Biotechnology.

## **635-105 Nanomaterials 3 cr**

Materials based on nanoparticles are already in the marketplace. This course will discuss the opportunity and challenge of nanomaterial based products from pharmaceutical coatings to smog reducing paints to individual crystal structure determination. Manufacturing processes along with reliability and quality control aspects will be discussed. Prerequisite(s): 623-108 Intro to Mfg Lab Science.

## **635-108 Micro and Nano Fabrication 2 cr**

Students will learn atomic structure and the periodic table, particularly as related to semiconductors; the meaning of semiconductor materials, their functions and use; differences between single crystal and polycrystalline materials; operations of diffusion and thin film deposition and how photolithography and masking work in the semiconductor process; oxidation process; etching, including wet and dry etching and photoresist stripping; doping, including diffusion techniques and ion implantation; thin film deposition, including CVD, LPCVD and metallization methods; wafer terminology, testing, evaluation, and yield factors. Supporting lab activity covers the basic process steps to make top-down micro and nanoscaled structures. Specific topics include oxidation, photolithography, electron beam lithography, chemical vapor deposition, etching, rapid thermal annealing, wet chemical etching and plasma etching. Students will build a micro mechanical structure as part of the lab. Prerequisite(s): 623-108 Intro to Mfg Lab Science.

## **635-109 Princ & Applic Nanobiotechnlgy 2 cr**

The course will focus on science and engineering miniaturization technologies applied to discrete and multiplexed biochemical analysis. After describing several large opportunity goals and objectives in modern genomics, proteomics, biomarker discovery, drug discovery,

biowarfare agent detection, and systems biology, this course will survey several core engineering approaches used in meeting the needs of multiplexed bioanalysis, like MEMS, nanofabrication, nanostructures and materials, biosensors, microfluidics and lab-on-a-chip biochemical processors, microarrays, cellular manipulation tools, and portable analysis instruments. Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-114 Biochips Lab.

## **635-111 Intro to Materials Characteriz 3 cr**

Students will receive hands-on experience with the characterization of engineering materials. Familiarity will be gained with the electron/optical microscopy, atomic force microscopy, x-ray diffraction, and spectroscopic methods. Students will perform specimen preparation; data collection/analysis and complete lab notes. Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-113 Materials Characterization Lab.

## **635-112 Micro & Nano Fabrication Lab 2 cr**

This lab covers the basic process steps to make top-down micro and nano scaled structures. Specific topics include oxidation, photolithography, electron beam lithography, chemical vapor deposition, etching, rapid thermal annealing, wet chemical etching, and plasma etching. Students will build a micro mechanical structure as part of the lab. Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-108 Micro and Nano Fabricatio.

## **635-113 Materials Characterization Lab 1 cr**

The lab will cover the characterization of engineering materials by electron/optical microscopy, atomic force microscopy, x-ray diffraction, and spectroscopic methods; specimen preparation; data collection/analysis; and lab note taking. Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-111 Intro to Materials Characteriz.

## **635-114 Biochips Lab 2 cr**

This lab will cover particle formation and size measurement; aerosol sampling; optical and condensation counters; and fabrication and testing of an electrophoresis biochip. Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-109 Princ & Applic Nanobiotechnlgy.

## **635-115 Nano Industry Practicum 1 cr**

Students will participate in a work experience where s/he will have an opportunity to practice acquired skills and knowledge from their program coursework. Individuals will be able to further reinforce their career, academic, skill, and personal competencies. Prerequisite(s): 635-117 Nanoscience Manufacturing & QA (or taken concurrently). Restricted to students admitted to the following program(s): 10-635-1 Nano Engineering Technology.

## **635-117 Nanoscience Manufacturing & QA 3 cr**

This course will present an overview of quality methods as they relate to nanotechnology. Emphasis will be on statistical process control (SPC), design of experiments (DOE), gage repeatability and reliability (R & R),

# Course Descriptions

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statistical significance, correlation, team-based problem solving, failure mode analysis, theory of inventive thinking (TRIZ), graphical statistical analysis, analysis of variance (ANOVA), and an introduction to ISO certification. A strong statistics background is required. Prerequisite(s): 804-189 Introductory Statistics. Co-requisite(s): 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials.

## **635-118 Intro to Biotechnology** 3 cr

This class examines the structure and function of the cell at the nanoscale. Topics include catalysis and biosynthesis, protein structure and function, genomics, gene manipulation, cell membrane structure and transport, cell communication, motor proteins and cancer. Emphasis will be on how cellular processes relate to bioMEMS, lab on a chip, sensors, diagnostics and biomedical devices. Prerequisite(s): 623-108 Intro to Mfg Lab Science. Restricted to students admitted to the following program(s): 10-623-1 Industrial Engineering Tech, 10-635-1 Nano Engineering Technology.

## **635-119 Principles of Micro & Nano Fab** 3 cr

Micro-Electro-Mechanical Systems (MEMS) are microscopic moving devices manufactured using computer chip fabrication methods. They have a wide variety of applications including in air bag collision sensors, digital projectors, optical communications, chemical sensors. Students will continue their experience in microfabrication and microelectronics manufacturing to design and manufacture MEMS in the cleanroom. Co-requisite(s): 635-121 MEMS & Microfluidics Desig.

## **635-121 MEMS & Microfluidics Design** 2 cr

This course allows students to use principles of computer aided design to design micro electromechanical systems and microfluidic devices. Students will make use of Sandia National Laboratories SUMMit V MEMS design software. Material considerations for microfabricated devices will be included. Prerequisite(s): 606-161 CAD, Basic.

## **635-150 Mfg Processes and Lab Science** 2 cr

This course will provide students with an overview of manufacturing processes used in a variety of industries from electronics to pharmaceuticals. This may include wet chemical, food, refinery, semiconductor, biomedical device, polymers and pharmaceutical processing methods used in manufacturing. This may also include computer controlled machining, rapid prototyping and applications of computer aided design. Prerequisite(s): 635-103 Lab Science Instrumentation.

## **635-199 Nano Independent Study** 4 cr

This course is designed to give the student an opportunity to research an area of nanoscience production and micro electromechanical systems and microfluidic devices that is not of the regular curriculum. The student learning plan, including required reports and projects, are developed in conjunction with the instructor.

## **801-Communication Skills**

### **801-120 Beginning Composition-Prepared Learner** 3 cr

As preparation for Written Communication (801-195), students will concentrate on writing effective sentences, cohesive paragraphs, and well-developed five-paragraph essay. Students will also respond to

readings and other students' writing, critique their own writing and implement suggestions from others, expand their vocabularies, adhere to the writing process, and word process their documents.

### **801-136 English Composition 1** 3 cr

This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing, and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents. Prerequisite(s): (COMPASS-Writing 60 or ACT English Assessment 18 ) or (831-103 Intro to College Writing or 801-120 Beginning Composition) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).20-800-2 Liberal Arts-Assoc of Science.

### **801-171 Business English** 3 cr

Develops proficiency in applying the various principles of English to language structure, usage, and style as used in employment situations.

Prerequisite(s): (COMPASS-Writing 60 or ACT English Assessment 18 ) or (831-103 Intro to College Writing or 801-120 Beginning Composition) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

### **801-195 Written Communication** 3 cr

Develops writing skills which include pre-writing, drafting, revising, and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. It also develops critical reading and thinking skills through the analysis of a variety of written documents. Prerequisite(s): (COMPASS-Writing 60 or ACT English Assessment 18 ) or (831-103 Intro to College Writing or 801-120 Beginning Composition) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).20-800-2 Liberal Arts-Assoc of Science.

### **801-196 Oral/Interpersonal Comm** 3 cr

Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

### **801-197 Technical Reporting** 3 cr

Prepares and presents 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. Designed as an advanced communication course for students who have completed at least the prerequisite introductory writing course with a grade of "C". Prerequisite(s): (801-195 Written Communication or 801-136 English Composition 1 or 801-219 English Composition 1.

### **801-198 Speech** 3 cr

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.

# Course Descriptions

## 801-200 Humanities

9 cr

Course credits taken at another accredited technical college, university or community college will be reviewed for transfer to fulfill the humanities requirements for the Liberal Arts degree at CVTC. The following is a list of course categories that would apply; history, literature, geography, philosophy, religious studies, anthropology, art history, music appreciation, and performing arts.

## 801-219 English Composition 1

3 cr

Develops critical thinking, reading, writing, listening, and speaking for both exposition and argumentation. Emphasizes clarity, concision, concreteness, synthesis of information, and completeness of expression, supported by reasoning, organization, and language conventions for research, presentations, and other discourse. Prerequisite(s): (COMPASS-Writing 69 or ACT English Assessment 19 ) or (831-103 Intro to College Writing or 801-120 Beginning Composition) or (Bachelor's Science Y or Bachelor's Arts Y ).

## 801-223 English Composition 2

3 cr

Advances composition skills, emphasizing well-reasoned argumentative research papers. Focuses on critical thinking, college-level discourse, as well as the following modes of literacy: writing, speaking, reading, and listening. Increases understanding and appreciation of the genres through analyzing and writing about fiction, drama, and poetry. Students conduct research using primary and secondary library resources, surveys and questionnaires, observations and interviews, documented in the MLA, APA, or Chicago-style formats. Students develop an appreciation for the stylistic, constructive and linguistic conventions of baccalaureate writing and communication as they apply to their own academic disciplines. Prerequisite(s): 801-219 English Composition 1.

## 801-239 Contemporary American Lit

3 cr

Examines major authors and works from the late 19th century to the present in American prose, drama, and poetry. Prerequisite(s): (801-219 English Composition 1 or 801-223 English Composition 2 or 801-195 Written Communication).

## 801-299 Electives for Univ Transfer

6 cr

Courses completed at the 200 level with a D grade or better from an accredited technical college, community college or university will be considered for the purposes of fulfilling the 6 credits needed for the Liberal Arts Associate degree at CVTC.

## 801-351 Applied Communication

2 cr

Develops skills in the four areas of communication--reading, writing, speaking, and listening--emphasizing practical application of the skills for the workplace environment.

## 802-Foreign Language

### 802-102 Spanish for the Green Industry

2 cr

Introduces basic conversation skills in Spanish to those working in the Green Industry. Emphasizes the use of vocabulary and expressions needed for communication in horticulture, landscaping, nursery/greenhouse and turf management. Addresses cultural aspects of working with Spanish speaking populations.

## 802-200 Foreign Language

4 cr

Course credits taken at another accredited technical college, university or community college will be reviewed for transfer to fulfill the foreign language requirement for the Liberal Arts degree at CVTC. The following is a list of languages that would apply; Spanish, French; German; Russian; Hmong; Japanese; Chinese, etc.

## 803-History

### 803-211 US History to 1877

3 cr

A survey of the history of the United States to 1877. Emphasis is placed on colonial settlement & development, the movement for independence, the establishment of government under the Constitution, westward expansion, emergence of sectionalism and the Civil War, and the period of Reconstruction. Prerequisite(s): 808-110 College Reading or (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or (Bachelor's Arts Y or Bachelor's Science Y ).

### 803-227 American Government

3 cr

American Government acquaints students with American political processes and institutions via a system approach which emphasizes the relationship between structure and behavior. The interrelationship of our state and national governments will first be analyzed in detail stressing political theory and methodology. Students will then examine, research, and analyze the complexity of the concept of separation of powers ("checks and balances") between Congress, the judiciary, the presidency, and the bureaucracy as well as explore the role of the media, interest groups, political parties and public opinion in the political process before focusing on the Constitutional rights and responsibilities of citizens and how those citizens access the process of participatory democracy, including elections, most effectively. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or 808-110 College Reading or (Bachelor's Science Y or Bachelor's Arts Y ).

## 804-Mathematics

### 804-107 College Mathematics

3 cr

This course is 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, and summarizing and analyzing data. Prerequisite(s): (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 18 ) or 834-110 Elem Algebra With Apps or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

# Course Descriptions

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**804-113 College Technical Math 1A** **3 cr**  
Designed for the students who are preparing for a technical career, this course covers a variety of algebraic topics. These include solving linear, quadratic, and rational equations; a basic introduction to graphing; formula rearrangement; solving systems of equations; percent; proportions; and operations on polynomials. Emphasis will be on the application of skills to technical problems. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1. Prerequisite: High school algebra or 854-771 or equivalent as determined by the Math Department Chair. Prerequisite(s): (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 18 ) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ) or 834-110 Elem Algebra With Apps.

**804-114 College Technical Math 1B** **2 cr**  
This course is a continuation of College Technical Mathematics 1A. Topics include measurement systems; computational geometry; right and oblique triangle trigonometry; and trigonometric functions on the unit circle. Emphasis will be on the application of skills to technical problems. Successful completion of or concurrent enrollment in College Technical Mathematics 1A is required for course enrollment. Successful completion of College Technical Mathematics 1A and College Technical Mathematics 1B is the equivalent of College Technical Mathematics 1. Prerequisite(s): 804-113 College Technical Math 1A (or taken concurrently) or 804-141 Applied Algebra (or taken concurrently) or 804-196 College Technical Math 1A (or taken concurrently).

**804-115 College Technical Math 1** **5 cr**  
This course is designed for students who are preparing for a technical career. Topics studied in the course include solving linear, quadratic, and rational equations; graphing; formula rearrangement; solving systems of equations; percent; proportions; measurement systems; computational geometry; right and oblique triangle trigonometry; trigonometric functions on the unit circle; and operations on polynomials. The course will emphasize the use of mathematics as a problem solving tool with a wide variety of technical problems. Prerequisite: High school algebra or 854-771 or equivalent determined by Math Department Chair. Prerequisite(s): (COMPASS-Algebra 35 or ACT Mathematics preentry assmt 19 ) or 834-110 Elem Algebra With Apps or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**804-116 College Technical Math 2** **4 cr**  
College Technical Mathematics 2 is the second semester technical mathematics course offered to technical students in associate degree programs. The student uses the mathematical skills developed in College Technical Mathematics 1 to learn new skills in the use of number systems, Boolean algebra, radian measure and rotational motion, graphing trigonometric functions, exponential functions, logarithms, complex numbers, straight line and conic section functions, and the analysis of statistical data. The course will emphasize the use of mathematics as a problem solving tool with a wide variety of technical problems. Prerequisite(s): 804-115 College Technical Math 1 or (804-113 College Technical Math 1A and 804-114 College Technical Math 1B).

**804-118 Interm Algebra w Apps** **4 cr**  
This course 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: high school algebra or 854-771, or an equivalent as determined by the Math Department Chair. Prerequisite(s): (COMPASS-Algebra 35 or ACT Mathematics preentry assmt 19 ) or 834-110 Elem Algebra With Apps or (Bachelor's Arts Y or Bachelor's Science Y ).

**804-123 Math w Business Apps** **3 cr**  
This course 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(s): (COMPASS-Prealgebra 30 or ACT Mathematics preentry assmt 17 ) or 834-109 Pre-Algebra or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**804-133 Math & Logic** **3 cr**  
This course is designed for students pursuing a computer related degree. It includes basic elements of sets and functional notation; a review of algebra, encompassing simple equations; linear equations; systems of equations; number bases; systems of measurement; Boolean Algebra; an introduction to probability and statistics; and an introduction to trigonometry. Prerequisite: High school algebra or 854-771, or equivalent determined by the Math Department Chair. Prerequisite(s): (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 18 ) or (834-110 Elem Algebra With Apps or 804-110 Elem Algebra w Apps) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**804-189 Introductory Statistics** **3 cr**  
Students taking this course will learn to display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. They will use probability and distributions to make predictions, estimate parameters, and test hypotheses. They will learn to draw inferences about relationships including ANOVA. Prerequisite(s): (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 18 ) or (834-110 Elem Algebra With Apps or 804-110 Elem Algebra w Apps) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**804-224 College Algebra** **4 cr**  
Studies properties of the real and complex number systems; quadratic, polynomial, rational, exponential and logarithmic functions; equations and inequalities; the use of matrices and determinants in solving systems of equations, sequences, series, and probability. Prerequisite(s): (COMPASS-Algebra 39 or ACT Mathematics preentry assmt 22 ) or (Bachelor's Science Y or Bachelor's Arts Y ) or 804-118 Interm Algebra w Apps.

**804-228 Plane Trigonometry** **3 cr**  
Covers trigonometric functions and their inverse functions, graphing trigonometric functions, trigonometric identities, solving triangles, solving equations and inequalities, complex numbers in trigonometric form, and polar curves. Prerequisite(s): 804-118 Interm Algebra w Apps or (COMPASS-Algebra 39 or ACT Mathematics preentry assmt 22 ) or (Bachelor's Arts Y or Bachelor's Science Y ).

# Course Descriptions

## 804-230 Statistics

4 cr

Studies appropriate statistical techniques for the systematic collection, presentation, analysis and interpretation of data using experimental and quasi-experimental methods found in research. Studies statistical inference including techniques, confidence intervals, types I and II errors, hypothesis testing, and results interpretation. Also includes descriptive statistics, basic probability-theory, the Central Limit Theorem; the binomial, normal, Student t, chi-squared, and F distributions; and techniques of 1 and 2 sample tests, linear regression, correlation, sample sizes, an introduction to analysis of variance and selected nonparametric procedures. May require use of a graphing calculator or computer software. Prerequisite(s): 804-118 Interm Algebra w Apps or (COMPASS-Algebra 39 or ACT Mathematics preentry asmt 22 ) or (Bachelor's Science Y or Bachelor's Arts Y ).

## 804-236 Calculus & Analytic Geometry 1

5 cr

Introduces the basic properties of limits, rate of change of functions, continuity, derivatives of algebraic and elementary transcendental functions and its applications, the definite integral and its applications, logarithmic, exponential, inverse trigonometric and hyperbolic functions, curve sketching, finding maxima and minima. Prerequisite(s): 804-224 College Algebra and 804-228 Plane Trigonometry.

## 804-240 Calculus & Analytic Geometry 2

5 cr

Includes techniques and applications of integration, numerical approximation of definite integrals, improper integrals, infinite series, and an introduction to first order differential equations, parametric equations and derivatives of parametric curves, polar coordinates in the plane and integrals using polar coordinates, an introduction to vectors in two and three dimensions, transcendental functions, indeterminate forms, Taylor's formula, topics from analytic geometry, plane curves and polar coordinates, vectors, and surfaces. Prerequisite(s): 804-236 Calculus & Analytic Geometry 1.

## 804-310 Office Math

2 cr

Applications are designed to prepare students in the math skills they will need as office professionals. Topics include: percent, payroll including withholding, taxes, invoice discounting, sale price and markup, simple and compound interest.

## 804-360 Math for Technical Trades

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills involving equations, word problems, percents, and technical formulas will focus on the needs of the students' professional studies.

## 804-360A Math for Tech Trades-Welding

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills involving equations, word problems, percents, and technical formulas will focus on the needs of the student's professional studies.

## 804-360B Math for Tech Trades-Ref AC Ht

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills involving equations, word

problems, percents, and technical formulas will focus on the needs of the student's professional studies. Restricted to students admitted to the following program(s): 31-401-1 Envro, Ref, A/C, Htg Srv.

## 804-360C Math Tech Trades-Auto & Sm Eng

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills involving equations, word problems, percents, and technical formulas will focus on the needs of the student's professional studies. Restricted to students admitted to the following program(s): 32-404-2 Automotive Technician, 31-404-3 Automotive Maint Tech, 31-404-3 Auto Maint Tech-Evening, 32-404-2 Auto Tech - Evening, 31-405-1 Auto Collision Repair, 31-461-2 Motorcycle, Marine & Ou.

## 804-360D Math for Tech Trades-Diesel

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills involving equations, word problems, percents, and technical formulas will focus on the needs of the student's professional studies.

## 804-361 Math 10

2 cr

This course will study how technicians use arithmetic and algebra as problem solving tools. Topics include arithmetic skills with integers, decimals, and fractions. Algebraic skills with equations, word problems, percents, and technical formulas will focus on solving professional problems.

## 804-362 Math 20

2 cr

This course is designed for machinists to provide them with a solid background in geometry, trigonometry, numerical control geometry, measurement conversion techniques, and more algebra. Focus will be on applying the concepts to machining situations and problems. Prerequisite(s): 804-361 Math 10.

## 804-363 Math for Electricity & Electrnrc

2 cr

This is an applied technical math course designed for students in the Electrical Power Distribution program. The course includes measurement conversions, including metric prefix notation, a review of linear algebra, basic geometry, right triangle trigonometry, circular trigonometry, Ohm's Law applications, series and parallel circuits, and AC circuit applications.

## 806-Natural Science

### 806-112 Principles of Sustainability

3 cr

Prepares the student to develop sustainable literacy, analyze the interconnections among the physical and biological sciences and environmental systems, summarize the effects of sustainability on health and well-being, analyze connections among social, economic, and environmental systems, employ energy conservation strategies to reduce the use of fossil fuels, investigate alternative energy options, evaluate options to current waste disposal and recycling in the U.S., and analyze approaches used by your community to promote and implement sustainability.

# Course Descriptions

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**806-115 Food Microbiology** 2 cr  
This course is designed to give students an understanding of the relationship of microorganisms to foodborne illness and intoxications. Includes discussion of organisms commonly identified in foodborne illness while exploring how microorganisms can affect food quality, food spoilage, and food safety. Also explores the growing use of probiotics within the food industry. Lab activities will include techniques and procedures used in the identification and qualification of foodborne pathogens. Prerequisite(s): 806-130 Intro to Microbiology (or taken concurrently).

**806-130 Intro to Microbiology** 2 cr  
This course is designed to give students a basic understanding of the world of microorganisms. Includes a history of microbiology, classification and taxonomy; cell structure and function; epidemiology, microbial growth and control. Explores how microorganisms impact our lives with discussion about pathogenic, nonpathogenic and opportunistic organisms. Lab activities will include use and care of the microscope, organism sampling, isolation, and staining.

**806-134 General Chemistry** 4 cr  
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. Prerequisite of 854-771 and 856-771 or high school chemistry and algebra. Prerequisite(s): (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 19 ) and (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or ACT Science Reasoning assmt 19 or 836-133 Prep for Basic Chemistry or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**806-143 College Physics 1** 3 cr  
Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinematics, dynamics, work, energy, power, temperature and heat. Prerequisite(s): (804-113 College Technical Math 1A and 804-114 College Technical Math 1B) or 804-115 College Technical Math 1.

**806-154 General Physics 1** 4 cr  
An overview of various physics topics, routinely covered in an introductory physics course, is presented with appropriate accompanying experiments. Included topics are: mechanics, properties of materials, heat, and sound. In addition to the technical science information given, an ability to solve problems, responsibility and initiative is emphasized. Prerequisite(s): (804-114 College Technical Math 1B or 804-142 Applied Geometry & Trigonometry or 804-197 College Technical Math 1B) or (804-115 College Technical Math 1 or 804-151 Technical Math 110 or 804-195 College Technical Math 1) or (804-118 Interm Algebra w Apps or 804-150 Math 100 (Advanced Algebra)).

**806-177 Gen Anatomy & Physiology** 4 cr  
Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed

decision-making and professional communication with colleagues and patients. Prerequisite of a C or better in high school or college chemistry with a lab component and a COMPASS Reading score of 80. If that is not achieved, students must take both 856-774 Intro to Anatomy & Physiology and 808-110 College Reading. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 or ACT Science Reasoning assmt 19 ) or (856-774 Intro to Anatomy & Physiology and 808-110 College Reading) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**806-179 Adv Anatomy & Physiology** 4 cr  
This course is the second semester in a two-semester sequence in which normal human anatomy and physiology are studied using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Instructional delivery within a classroom and laboratory setting. Experimentation within a science lab will include analysis of cellular metabolism, the individual components of body systems such as the nervous, neuromuscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood. Integration of genetics to human reproduction and development are also included in this course. Prerequisite(s): (806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I).

**806-186 Intro to Biochemistry** 4 cr  
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 of high school or college chemistry or 856-771 with a C or better. Prerequisite(s): 836-133 Prep for Basic Chemistry or (COMPASS-Prealgebra 45 or ACT Mathematics preentry assmt 19 ) and (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or ACT Science Reasoning assmt 19 or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**806-189 Basic Anatomy** 3 cr  
Examines concepts of anatomy and physiology as they relate to health careers. Learners correlate anatomical and physiological terminology to all body systems. Prerequisite: High school biology. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 18 or ACT Science Reasoning assmt 18 ) or 856-774 Intro to Anatomy & Physiology or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**806-197 Microbiology** 4 cr  
This course examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Disease production, epidemiology, host defense mechanisms, and the medical impact of microbes in the environment, industry, and biotechnology are also addressed. Prerequisite(s): 806-177 Gen Anatomy & Physiology or 806-140 Anatomy & Physiology I.

**806-201 Principles of Biology** 4 cr  
Explores fundamental principles of ecology, genetics, evolution, organism structure and function. Some lab sections are specially

# Course Descriptions

designed for elementary/special education students who are likely to pursue a career in fields other than the biological or medical sciences. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry asmt 19 or ACT Science Reasoning asmt 21 ) or 836-113 Prep for Basic Biology or (Bachelor's Arts Y or Bachelor's Science Y ).

**806-207 Anatomy & Physiology 1** 4 cr  
The fundamentals of bodily function are studied at the cellular, tissue, organ, and organ system levels. Integration of physiological function and anatomical structure will be highlighted in the skeletal, integumentary, muscular, nervous, and endocrine systems. This course is the first semester of a two semester sequence designed for students who wish to transfer to a four year institution. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry asmt 19 or ACT Science Reasoning asmt 21 ) or 856-774 Intro to Anatomy & Physiology or (Bachelor's Arts Y or Bachelor's Science Y ) and 806-245 Principles of Gen Chemistry 1.

**806-208 Anatomy and Physiology 2** 4 cr  
This course will detail the anatomical and physiological features of the human body. Topics covered in both a lab and lecture setting include the cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems, as well as metabolism, fluid electrolyte, and acid-based balance. This course is designed for students who wish to transfer to a four year institution. Prerequisite(s): 806-207 Anatomy & Physiology 1.

**806-245 Principles of Gen Chemistry 1** 5 cr  
Introduces the laboratory and the scientific method as tools in the study of chemical transformations and the properties of matter. It includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, gas laws, thermochemistry, chemical bonding, kinetics, equilibria, electrochemistry and topics in organic and biochemistry. Qualitative analysis is included in the laboratory course. Prerequisite(s): (COMPASS-Algebra 40 and COMPASS-Reading 80 ) or (ACT Mathematics preentry asmt 19 and ACT Reading preentry asmt 19 or ACT Science Reasoning asmt 19 ) or 836-133 Prep for Basic Chemistry or (Bachelor's Arts Y or Bachelor's Science Y ).

**806-249 Principles of Gen Chemistry 2** 5 cr  
Includes applications of principles to and mathematical treatment of the topics of kinetics, equilibrium, thermodynamics, electrochemistry, coordination compounds, nuclear chemistry, organic structures, biochemistry, and nomenclature. Qualitative analysis is included in the laboratory course. Prerequisite(s): 806-245 Principles of Gen Chemistry 1.

**806-276 Principles General Physics 1** 5 cr  
Develops a conceptual understanding of the basics of physics and provides practical hands-on lab to broaden the understanding of physics. Covers the basic properties of motion, force, energy, momentum, rotation, fluids, heat, sound. Stresses developing good problem-solving strategies. Prerequisite(s): (COMPASS-Algebra 66 and COMPASS-Reading 80 ) or (ACT Mathematics preentry asmt 22 and ACT Reading preentry asmt 19 or ACT Science Reasoning asmt 19 ) or (834-110 Elem Algebra With Apps or 804-110 Elem Algebra w Apps) or (Bachelor's Arts Y or Bachelor's Science Y ).

**806-280 Principles General Physics 2** 4 cr  
Studies electricity, magnetism, geometric and physical optics, basics of modern physics topics. Prerequisite(s): 806-276 Principles General Physics 1.

**806-301 Basic Microbiology** 2 cr  
This two-credit course covers the structure and function of the microbial cell, pathogenic and nonpathogenic organisms, infectious processes, and the immune response. This course cannot be taken for credit if it follows successful completion of or is concurrent with Applied Microbiology (806-132).

**806-321 Salon Science** 2 cr  
This course includes a basic introduction to chemical concepts of matter, properties, elements, compounds, classification of matter, and chemical reactions. Oxidation, acids and bases, pH, the solution process, and how these all relate to the spa and beauty industry, the biochemistry of proteins, lipids, carbohydrates, and other organic molecules and how they specifically relate to hair, skin, and nails. The nature cells, cell reproduction, melanin, and how chemical products such as lotions, shampoos, conditioners, etc., interact with these systems will be studied. Also examined will be the physical concepts of light and color and the electromagnetic spectrum, and its effects on the human body. Also, basic electricity, electrical safety, and energy conservation within the spa/salon will be examined. Restricted to students admitted to the following program(s): 31-502-1 Cosmetology.

**806-341 Vocational Science** 2 cr  
Provides an introduction to basic physical principles involved in mechanics, hydraulics, thermodynamics, and electronics. Practical utilization of these principles in various technologies is analyzed with reinforcement from problem solving and laboratory exercises. Prerequisite(s): (804-360D Math for Tech Trades-Diesel or 804-361 Math 10) or 804-363 Math for Electricity & Electrnrc.

## 808-Reading

**808-110 College Reading-Prepared Learner** 3 cr  
Students develop reading skills necessary to be successful college students. Areas of concentration include: improving ability to read college textbooks and technical materials, building vocabulary and reading comprehension, learning appropriate reading strategies, developing speed in reading, and applying reading skills to test-taking. Prerequisite(s): COMPASS-Reading 62 or ACT Reading preentry asmt 15 or 838-105 Intro Reading & Study Skills or (Bachelor's Science Y or Bachelor's Arts Y or Assoc Degree preentry asmt Y ).

## 809-Social Science

**809-122 Intro to Amer Government** 3 cr  
Introduces American political processes and institutions. Focuses on rights and responsibilities of citizens and the process of participatory democracy. Learners 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. Also explores the role of state and national government in our federal system. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt

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17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-128 Marriage & Family** **3 cr**

This course introduces the student to the sociological aspects of marriage and family life in contemporary American society. Emphasis is on the study of cognitive, emotional, and behavioral patterns associated with courtship, love, mate selection, sexuality, and marriage. Moreover, it discusses the life span development in the family life cycle, balancing work and family, and parenting. This course is based on the premise that human attitudes, feelings, and behaviors are largely shaped and influenced by philosophy, gender, communication, and personal beliefs. Therefore, success in the institutions of marriage and family require knowledge and skills in the roles of spouse and parent and ways to apply concepts to daily life. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-159 Abnormal Psychology** **3 cr**

This course surveys the essential features, possible causes, and assessment and treatment of the various types of abnormal behavior from the viewpoint of the major theoretical perspectives in the field of abnormal psychology. Students will be introduced to the diagnosis system of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV). In addition, the history of the psychology of abnormality will be traced. Cultural and social perspectives in understanding and responding to abnormal behavior will be explored as well as current topics and issues within abnormal psychology. Prerequisite(s): 809-198 Intro to Psychology.

## **809-166 Intro to Ethics: Theory & App** **3 cr**

This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social, and/or professional standards of behavior and apply a systematic decision-making process to these situations. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-172 Intro to Diversity Studies** **3 cr**

This is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a history of immigration and conquest, principles of transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-174 Social Problems** **3 cr**

Explores the causes of and possible solutions to selected social problems such as inequality, crime and deviance, and poverty. Students will

examine the interrelationship of social problems and their roots in fundamental societal institutions. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-188 Developmental Psychology** **3 cr**

This is the study of human development throughout the lifespan. This course explores 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. Application activities and critical thinking skills will enable students to gain increased knowledge and understanding of themselves and others. It is recommended that either Intro to Psychology (809-198) or Psychology of Human Relations (809-199) be completed before taking this course. Prerequisite(s): 808-110 College Reading or (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-195 Economics** **3 cr**

Designed to give an overview of how a market-oriented economic system operates, and it surveys the factors which influence national economic policy. Basic concepts and analyses are illustrated by reference to a variety of contemporary problems and public policy issues. Concepts include scarcity, resources, alternative economic systems, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Assoc Degree preentry asmt Y or Bachelor's Arts Y or Bachelor's Science Y ).

## **809-196 Intro to Sociology** **3 cr**

Basic study of the role of society, culture and socialization in shaping individual behavior and societal institutions. Emphasis is placed upon applying sociological principles to both students' job settings and to their interpersonal relationships. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

## **809-197 Contemporary Amer Society** **3 cr**

This course examines the network of interdependent social systems that affect learners as employees, family members, and citizens. In this interdisciplinary course learners will study public policy issues that 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, learners will expand their use of creative and critical thinking skills in evaluating information, making decisions, advocating positions, and participating in the democratic process. Emphasis is placed on the foundation and structure of American society and the impact that diversity has on its institutions. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry asmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y ).

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**809-198 Intro to Psychology** **3 cr**  
This introductory course in psychology is a survey of the multiple aspects of human behavior. It involves a survey of the theoretical foundations of human functioning in such areas as learning, motivation, emotions, personality, deviance and pathology, physiological factors, and social influences. Additional topics include research methods, biological and environmental impacts, development, sensation and perception, consciousness, intelligence and stress. This course directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry assmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**809-199 Psychology of Human Relations** **3 cr**  
Students will become acquainted with the basic theories and concepts of psychology and human behavior, enabling them to be more effective in their work and personal lives. A better understanding of human relations will help the individual adjust and grow in a complex society. Prerequisite(s): (COMPASS-Reading 75 or ACT Reading preentry assmt 17 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y ).

**809-200 Diversity/Ethnic Studies** **3 cr**  
Course credits taken at another accredited technical college, university or community college will be reviewed for transfer to fulfill the diversity/ethnic studies requirement for the Liberal Arts degree at CVTC. The following are types of courses that would apply; Ethics, Diversity in the Work Place, Cultures such as the American Indian, Ethical Citizenship, Business Ethics.

**809-225 Ethics** **3 cr**  
This course engages students in a dialogue with past and present ethical thinkers who provide framework for addressing an array of contemporary moral issues pertaining to the individual and society. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y ).

**809-251 General Psychology** **3 cr**  
Surveys individual and social behavior including its psychological and physiological bases, development, motivation, emotion, perception, learning and behavior disorders. Studies the methods, principles, and theories of contemporary psychology as applied to understanding, predicting, and modifying human behavior. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or 808-110 College Reading or (Bachelor's Science Y or Bachelor's Arts Y ).

**809-271 Introductory Sociology** **3 cr**  
Defines and examines concepts and realities of social structure, the social processes that shape behavior, culture, socialization, social groups, and social change. Analyzes concepts and phenomena such as complex organizations, roles, stratification, class, inequality, deviance, and race. Examines institutions such as the family, religion, education, politics, economics and the media. Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 ) or 808-110 College Reading or (Bachelor's Science Y or Bachelor's Arts Y ).

**809-291 Principles of Microeconomics** **3 cr**  
Introduces, describes, and analyzes how markets work emphasizing what they do well and how they fail and how individuals, businesses, and governments choose to use scarce resources. Includes descriptions, analyses and critiques of various methods of government intervention in the economy. Analyzes current issues using economic concepts such as income distribution, monopoly, and efficiency. Analyzes business decisions with regard to cost analysis, output determinations; the price system, mechanisms, and determination in the products and factors of production. Discusses other topics such as the environment, regulation vs. deregulation, international markets and trade, technology and economic development. Prerequisite(s): (COMPASS-Prealgebra 40 or ACT Mathematics preentry assmt 19 or 804-110 Elem Algebra w Apps) and (COMPASS-Reading 80 or ACT Reading preentry assmt 19 or 808-110 College Reading) or Bachelor's Arts Y or Bachelor's Science Y .

**809-292 Principles of Macroeconomics** **3 cr**  
Introduction to basic economic principles with applications to current economic problems affecting the overall performance of a nation's economy. Topics include the causes and consequences of unemployment, inflation and economic growth; the role of money and banking in the economy; the role of government taxing and spending policies to correct market failure and stabilize the economy; the implications of budget deficits and the national debt; and the implications of an increasingly global economy. Prerequisite(s): (COMPASS-Prealgebra 40 or ACT Mathematics preentry assmt 19 or 804-110 Elem Algebra w Apps) and (COMPASS-Reading 80 or ACT Reading preentry assmt 19 or 808-110 College Reading) or (Bachelor's Arts Y or Bachelor's Science Y ).

**809-351 Occupational Relations** **2 cr**  
This course is designed to provide the student with a basic understanding of the human relations skills necessary to succeed in a total quality work environment. This will include workplace trends, team-building skills, customer and co-worker relations, attitude and motivation, safety and stress management, diversity, employment law, and financial and benefits planning.

## 810-Speech

**810-201 Fundamentals of Speech** **3 cr**  
Examines theory and process of communication, the role of speech in self-development, the nature of meaning, the art of persuasion, topic selection, the use of research-based evidence, and audience analysis. Includes organizing speech content, speech delivery and critique via presentation of informative and persuasive speeches and development of effective extemporaneous speaking style. Students gain self-confidence, proficiency, and poise.

## Prepared Learner

**801-120 Beginning Composition** **3 cr**  
As preparation for Written Communication (801-195), students will concentrate on writing effective sentences, cohesive paragraphs, and well-developed five-paragraph essay. Students will also respond

# Course Descriptions

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to readings and other students' writing, critique their own writing and implement suggestions from others, expand their vocabularies, adhere to the writing process, and word process their documents.

## **808-110 College Reading** **3 cr**

Students develop reading skills necessary to be successful college students. Areas of concentration include: improving ability to read college textbooks and technical materials, building vocabulary and reading comprehension, learning appropriate reading strategies, developing speed in reading, and applying reading skills to test-taking. Prerequisite(s): COMPASS-Reading 62 or ACT Reading preentry assmt 15 or 838-105 Intro Reading & Study Skills or (Bachelor's Science Y or Bachelor's Arts Y or Assoc Degree preentry assmt Y).

## **831-103 Intro to College Writing** **3 cr**

Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multi-paragraph documents. Prerequisite(s): (COMPASS-Writing 35 or ACT English Assessment 17) or 801-120 Beginning Composition or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y).

## **834-109 Pre-Algebra** **3 cr**

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.

## **834-110 Elem Algebra With Apps** **3 cr**

This course offers traditional algebra topics with applications. Learners develop algebraic problem-solving techniques necessary for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, and roots and radicals. Topics will be woven with applications to real world situations. Prerequisite(s): (COMPASS-Prealgebra 30 or ACT Mathematics preentry assmt 17) or (834-109 Pre-Algebra or 804-110 Elem Algebra w Apps).

## **836-113 Prep for Basic Biology** **2 cr**

Introduces student to basic principles of biology. Students become familiar with the nature of science, basic biochemistry concepts, and the structure and function of a cell. Prerequisite(s): COMPASS-Reading 62 or (ACT Reading preentry assmt 15 or ACT Science Reasoning assmt 17) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y) or 838-105 Intro Reading & Study Skills.

## **836-133 Prep for Basic Chemistry** **2 cr**

Introduces basic principles of chemistry including the properties of matter, atomic structure, and the classification of chemical reactions. Students learn to characterize solutions, acids, and bases, and differentiate between elements and compounds. Prerequisite(s): (COMPASS-Reading 62 or ACT Reading preentry assmt 15) and (COMPASS-Prealgebra 30 or ACT Mathematics preentry assmt 17) or ACT Science Reasoning assmt 17 or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y) or (838-105 Intro Reading & Study Skills or 834-109 Pre-Algebra).

## **838-104 Intro to College Reading** **2 cr**

Provides learners with opportunities to develop and expand reading skills including comprehension and vocabulary. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources. (COMPASS-Reading 62 or ACT Reading preentry assmt 14) or (Bachelor's Arts Y or Bachelor's Science Y).

## **838-105 Intro Reading & Study Skills** **3 cr**

This course provides learners with opportunities to develop study skills and expand reading skills including comprehension, fluency, and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information from a variety of sources. COMPASS-Reading 40 or ACT Reading preentry assmt 14.

# Chippewa Valley Technical College - 2012-2013 Resident Fee ESTIMATES

The estimated costs provided are based on current tuition and fee rates and are intended for planning purposes only. Actual fees will be assessed at time of registration and are based on courses and credits for which the student registers.

ESTIMATES below are by SEMESTER, and include Activity fee of \$6.43 per credit, tuition of \$116.90 per credit and Material Fees established by the Wisconsin Technical College Board. EXCEPTION: Activity fee of \$6.43 per credit, tuition of \$158.25 per credit and Material Fees established by the Wisconsin Technical College Board for the Liberal Arts-Associate of Science program.													*Elective Course Not Included	
Programs are offered in traditional 16-week semester programs unless indicated otherwise by footnotes	1st Term	2nd Term	Summer Term	3rd Term	4th Term	5th Term or Summer	6th Term	7th Term	8th Term	9th Term	10th Term	Special Fees/Tools /other fees	Total Book Fees	Total Program Fees
													*For more current price see efollett.com	*Including Books
Accounting (6)	\$2,133	\$2,260		\$2,027	\$2,153								\$2,759	\$11,332
Administrative Professional	\$2,273	\$2,017		\$2,153	\$1,891								\$3,198	\$11,532
Agriscience Technician - Agronomy/Conservation Planning or Animal Science	\$2,412	\$2,610	\$663	\$2,069	\$1,518								\$1,737	\$11,008
AC, Heating & Ref Tech (4)(7)	\$2,565	\$2,442		\$2,147	\$2,155							\$650	\$2,242	\$12,200
Alcohol & Other Drug Abuse Associate	\$2,230	\$2,230	\$384	\$2,230	\$1,492							\$388	\$1,927	\$10,880
Auto Collision & Repair (4)	\$2,599	\$2,667	\$1,046									\$2,842	\$405	\$9,559
Automotive Maint Tech (3)(4)	\$151	\$2,069	\$1,894									\$3,266	\$394	\$7,773
Automotive Technician (3) (4)	\$151	\$2,069	\$1,894	\$831	\$1,894	\$1,648						\$3,266	\$647	\$12,399
Barber/Cosmetology (4)(5)	\$2,367	\$2,260	\$1,197	\$1,191								\$721	\$683	\$8,419
Business Management	\$2,117	\$1,881		\$2,127	\$2,240								\$2,687	\$11,051
Central Service Technician	\$1,807											\$18	\$626	\$2,451
Child Care Services	\$2,244	\$1,846											\$1,301	\$5,391
Civil Engineering Technician - Structural	\$2,315	\$2,302		\$2,192	\$2,159								\$1,747	\$10,715
Criminal Justice - Law Enforcement	\$2,037	\$2,406		\$2,464	\$2,238								\$2,315	\$11,460
Criminal Justice - Law Enforcement Academy	\$3,200												\$0	\$3,200
Dental Assistant	\$2,556											\$33	\$198	\$2,787
Dental Hygienist - 2-Year Track	\$533	\$2,756	\$2,449	\$2,290	\$2,235							\$1,602	\$1,315	\$13,180
Diagnostic Medical Sonography	\$2,189	\$2,500	\$753	\$2,215	\$679	\$679						\$79	\$2,035	\$11,129
Diesel & Heavy Equip Tech (3)(4)	\$2,309	\$2,193		\$2,454	\$2,361							\$4,850	\$868	\$15,035
Early Childhood Education	\$2,377	\$1,978		\$2,318	\$2,318								\$2,468	\$11,458
Electrical Power Distribution (3)	\$2,506	\$2,153										\$950	\$989	\$6,598
Electromechanical Technology (3)	\$2,221	\$2,263		\$2,477	\$2,412								\$2,258	\$11,630
Environmental Ref, AC & Heating Service Tech (3)(4)	\$2,319	\$2,212										\$650	\$758	\$5,939
Farm Business & Prod Mgmt - Part-Time 6-Year Track	Course fees per year: \$250 - \$500											\$0	\$3,000	
Firemedic (4)	\$2,328	\$1,820	\$2,464	\$831	\$1,992							\$820	\$2,292	\$12,547
Health Information Technology	\$1,878	\$2,027	\$753	\$2,023	\$1,771							\$260	\$1,846	\$10,557
Human Resources	\$2,117	\$1,891		\$2,260	\$2,269								\$2,995	\$11,531
Individualized Technical Studies	\$1,615	\$1,861		\$1,861	\$1,984								\$2,273	\$9,593
Industrial Engineering Tech	\$2,066	\$1,975	\$433	\$2,306	\$356									
Industrial Mechanic (2)(3)(4)	\$2,416	\$2,600	\$1,036									\$89	\$1,009	\$7,150
Industrial Mechanic Tech (3)(4)	\$2,416	\$2,600	\$1,036	\$2,101	\$1,732							\$89	\$0	\$9,974
Information Technology - Network Specialist	\$2,273	\$2,066		\$2,289	\$2,017							\$484	\$1,667	\$10,796
Information Technology - Programmer/Analyst	\$1,900	\$2,269		\$2,269	\$2,266								\$1,305	\$10,009
Landscape, Plant and Turf Management	\$1,939	\$2,043	\$414	\$1,949	\$2,205								\$0	\$8,549
Liberal Arts Associate of Science (9)	\$2,700	\$2,513		\$2,513	\$2,357								\$730	\$10,814
Machine Tooling Technics (2)(3)(4)	\$2,296	\$2,348		\$2,348	\$2,400							\$1,189	\$579	\$11,159
Manufacturing Engineering Technology	\$2,043	\$2,069		\$2,208	\$2,030									
Marketing Management	\$2,117	\$1,894		\$2,269	\$2,269								\$1,785	\$10,333
Medical Assistant (7)	\$2,399	\$1,991										\$143	\$939	\$5,471

(For Non-Resident fee and status information, contact CVTC at 715-833-6245 or 1-800-547-2882, ext. 6245)

Please refer to last page of these estimates for footnotes and other fee information.

Subject to change without notice.

# Chippewa Valley Technical College - 2012-2013 Resident Fee ESTIMATES

The estimated costs provided are based on current tuition and fee rates and are intended for planning purposes only. Actual fees will be assessed at time of registration and are based on courses and credits for which the student registers.

ESTIMATES below are by SEMESTER, and include Activity fee of \$6.43 per credit, tuition of \$116.90 per credit and Material Fees established by the Wisconsin Technical College Board. EXCEPTION: Activity fee of \$6.43 per credit, tuition of \$158.25 per credit and Material Fees established by the Wisconsin Technical College Board for the University Transfer-Liberal Arts program.													*Elective Course Not Included	
													*Book costs subject to change	
Programs are offered in traditional 16-week semester programs unless indicated otherwise by footnotes	1st Term	2nd Term	Summer Term	3rd Term	4th Term	5th Term or Summer	6th Term	7th Term	8th Term	9th Term	10th Term	Special Fees/Tools	Total Book Fees *For more current price see efollett.com	Total Program Fees *Including Books
Medical Laboratory Technician	\$2,335	\$2,426	\$761	\$2,148	\$1,996							\$216	\$2,258	\$12,139
Motorcycle, Marine & Outdoor Power Products Tech (3)(4)	\$2,283	\$2,179	\$851									\$3,050	\$790	\$9,153
Nano Engineering Technology	\$2,066	\$2,276		\$2,306	\$2,451								\$2,431	\$11,529
Nursing - Associate Degree - 2-Year Track (1)	\$2,467	\$2,231		\$2,467	\$1,969							\$559	\$2,301	\$11,994
Nursing - Associate Degree - Part-Time 4-Year Track (7)	\$1,168	\$945		\$1,048	\$1,025	\$533	\$1,285	\$1,134	\$396	\$812	\$792	\$559	\$2,301	\$12,001
Nursing Assistant - 120 Hours	\$414											\$17	\$79	\$510
Paralegal (6)(7)	\$2,076	\$2,445		\$2,461	\$2,066								\$2,174	\$11,221
Paramedic Technician (5)	\$2,237	\$1,226	\$2,192	\$2,056	\$1,641							\$800	\$850	\$11,002
Pharmacy Technician	\$2,238	\$2,179										\$31		\$4,448
Physical Therapy Assistant	\$2,069	\$2,179	\$761	\$2,069	\$1,946							\$61		\$9,085
Radiography (1)	\$2,260	\$2,215	\$783	\$1,846	\$1,551	\$546						\$296	\$805	\$10,302
Renal Dialysis Technician	\$2,043	\$1,804										\$31	\$710	\$4,587
Residential Construction	\$2,543	\$2,238										\$1,118	\$652	\$6,551
Respiratory Therapist	\$2,127	\$2,017	\$790	\$2,166	\$2,250							\$106	\$1,862	\$11,318
Surgical Technologist (June Entry)	\$902	\$2,030	\$1,907									\$221	\$689	\$5,749
Technical Studies - Journeyworker	\$4,814	\$777	\$777	\$1,158									\$625	\$8,152
Truck Driving - 8 weeks (4)(5)(8)	\$2,194												\$165	\$2,359
Welding (3)(4)(7)	\$2,796	\$2,654	\$1,065									\$575	\$548	\$7,638
Welding Fabrication	\$2,796	\$2,654	\$1,065	\$2,238	\$1,992							\$575		
Welding - Part-Time Evening (7)	\$1,947	\$1,766		\$1,551	\$838							\$575	\$548	\$7,225

Tuition and fees presented here are approximate costs based on the program sequence on CVTC's Program Planning Sheets and are subject to change. Fees vary according to the term of enrollment and the number of credits.

Some book costs and Special Fees/Tools are based on the prior school year and are likely to change and should be used for estimating only.

#### FOOTNOTES:

- (1) Each semester fee may include credits assessed and / or earned subsequent to that semester in clinical or other setting.
- (2) These programs admit students every 8 weeks, offering a mix of 8 and 16-week courses.
- (3) Safety glasses required.
- (4) Special fees may include tool boxes, shop/lab coats, safety glasses, parts room deposit, shirts, etc., depending on the program. Most special fees are due the first semester, however, some fees are due in semesters 2, 3, and 4.
- (5) Program meets in 8-week terms.
- (6) Some course offerings available through Internet based instruction.
- (7) Offered Part-time basis and Evenings.
- (8) Weekend offerings.
- (9) Joint program with UW System Schools. Some courses must be taken at a participating University and UW fees may apply.

**NOTE TO OUT-OF-STATE RESIDENTS:** 2012-2013 tuition rate for out-of-state residents is \$175.35 per credit (\$237.38 per credit Liberal Arts) plus an activity fee of \$9.64 per credit. Please note that out-of-state tuition fees do not apply to distance education offerings through our virtual campus. The tuition rate of \$116.90 per credit applies to Wisconsin and Minnesota (Reciprocity Agreement) residents. International students need to contact the Admissions Manager at (715) 833-6245 or email: sbrehm@cvtc.edu.

(For Non-Resident fee and status information, contact CVTC at 715-833-6245 or 1-800-547-2882, ext. 6245)

Subject to change without notice.

Name \_\_\_\_\_

Prepared Learner

Student ID: \_\_\_\_\_

## Prepared Learner Initiative Associate Degree Programs - General Education Courses Only

Accounting  
 Administrative Assistant  
 Agriscience  
 AODA  
 Business Management  
 Civil Engineering  
 Criminal Justice  
 Dental Hygienist  
 Diagnostic Medical Sonography  
 Early Childhood  
 Electromechanical

FireMedic  
 HVAC  
 Health Information Technician  
 Human Resources  
 Individual Technical Studies  
 Industrial Engineering Technician  
 IT Networking  
 IT Programmer/Analyst  
 Landscape, Plant & Turf Management

Manufacturing Engineering Technologist  
 Marketing Management  
 Medical Laboratory Technician  
 Nano Engineering Technology  
 Nursing, Adv Placement Nursing  
 Paramedic Technician  
 Paralegal  
 Physical Therapy Assistant  
 Radiography  
 Respiratory Therapist

### IMPORTANT:

Refer to your program requirement sheet for General Education courses required for your program.

**RETAIN THIS DOCUMENT FOR ASSISTANCE IN REGISTERING FOR COURSES.**

Your ACT Score:	Reading	English	Math	Science
Your Compass Score or equivalent	Reading	Writing	Pre-Algebra	Algebra

ASSESSMENT SCORES		COMPASS PLACEMENT	ACT PLACEMENT	COMMUNICATION SKILLS COURSES
COMPASS Writing <b>60-99</b>	Minimum English ACT <b>18</b>			#801-195 Written Communication (3 cr.), #801-171 Business English (3cr.), #801-136 English Composition 1 (3 cr.)  #831-103 Introduction to College Writing (3 cr.) <b>OR</b> #801-120 Beginning Composition (3 cr.)
COMPASS Writing <b>35-59</b>	ACT English <b>17</b>			
COMPASS Writing <b>0-34</b>	ACT English <b>16 or below</b>			
<b>SOCIAL SCIENCE COURSES</b>				
COMPASS Reading <b>75-99</b>	Minimum Reading ACT <b>17</b>			#809-122 Intro to American Government (3 cr.), #809-128 Marriage & Family (3 cr.) #809-166 Intro to Ethics: Theory & Applications (3 cr.); #809-172 Race Ethnic & Diversity (3 cr.)#809-174 Social Problems (3 cr.), #809-195 Economics (3 cr.), #809-196 Introduction to Sociology (3 cr.) #809-197 Contemporary American Society (3 cr.), #809-198 Introduction to Psychology (3 cr.), #809-199 Psychology of Human Relations (3 cr.), #809-188 Developmental Psychology (3 cr.)
COMPASS Reading <b>62-74</b>	Minimum Reading ACT <b>15</b>			#808-110 College Reading (3 cr.)
COMPASS Reading <b>40-61</b>	ACT Reading <b>14</b>			#838-105 Introduction to Reading & Study Skills (3 cr.)
COMPASS Reading <b>0-39</b>	ACT Reading <b>13 or below</b>			STAR Reading Course - register in BEC 212 or Academic Services labs at other CVTC campuses

ASSESSMENT SCORES		COMPASS PLACEMENT	ACT PLACEMENT	LIFE SCIENCE COURSES
COMPASS Reading <b>80-99</b>	Minimum Reading <b>ACT 19</b> OR Minimum Science <b>ACT 19</b>			#806-177 General Anatomy and Physiology (4 cr.)
COMPASS Reading <b>62-79</b>	Minimum Reading <b>ACT 15</b> OR Minimum Science <b>ACT 17</b>			#856-774 Intro to A & P (2 BSE cr.) <b>AND</b> #808-110 College Reading (3 cr.)
COMPASS Reading <b>62-79</b>	Minimum Reading <b>ACT 15</b>			
COMPASS Reading <b>40-61</b>	ACT Reading <b>14</b>			#838-105 Introduction to Reading & Study Skills (3 cr.)
COMPASS Reading <b>0-39</b>	ACT Reading <b>13 or below</b>			STAR Reading Course - register in BEC 212 or Academic Services labs at other CVTC campuses
				<b>PHYSICAL SCIENCE COURSES</b>
COMPASS Pre-Alg <b>45-99</b> AND COMPASS Reading <b>80-99</b>	Minimum Math & Reading <b>ACT 19</b> OR Minimum Science <b>ACT 19</b>			#806-134 General Chemistry (4 cr.), #806-186 Introduction to Biochemistry (3 cr.)
COMPASS Pre- Alg <b>30-44</b> AND COMPASS Reading <b>62-79</b>	Minimum Math <b>ACT 17</b> & Reading <b>ACT 15</b> OR Minimum Science <b>ACT 17</b>			#836-133 Prep for Basic Chemistry (2 cr.)
COMPASS Reading <b>40-61</b> AND/OR COMPASS Pre- Alg <b>0-29</b>	Math <b>ACT 16 or below</b> AND/OR Reading <b>ACT 14</b>			#838-105 Intro to Reading and Study Skills (3cr.) <b>AND/OR</b> (depending on COMPASS/ACT Reading and Math scores) #834-109 Pre-Algebra (3 cr.)
COMPASS Reading <b>0-39</b>	ACT Reading <b>13 or below</b>			STAR Reading Course - register in BEC 212 or Academic Services labs at other CVTC campuses
				<b>MATH COURSES</b>
COMPASS Algebra <b>35-99</b>	Minimum Math <b>ACT 19</b>			#804-115 College Technical Math 1 (5 cr.), #804-118 Intermediate Algebra with Applications (4 cr.)
COMPASS Algebra <b>0-34</b> or Pre- Alg <b>30-99</b>	Minimum Math <b>ACT 17</b>			#834-110 Elementary Algebra with Applications (3 cr.)
COMPASS Pre- Alg <b>0-29</b>	ACT Math <b>16 or below</b>			#834-109 Pre-Algebra (3 cr.)
COMPASS Pre-Alg <b>45-99</b>	Minimum Math <b>ACT 18</b>			#804-113 College Technical Math 1A (3 cr.), #804-133 Math & Logic (3 cr.) #804-189 Introductory Statistics (3 Cr.) #804-107 College Mathematics (3 Cr.)
COMPASS Pre- Alg <b>30-44</b>	Minimum Math <b>ACT 17</b>			#834-110 Elementary Algebra with Applications (3 cr.)
COMPASS Pre- Alg <b>0-29</b>	ACT Math <b>16 or below</b>			#834-109 Pre-Algebra (3 cr.)
COMPASS Pre-Alg <b>30-99</b>	Minimum Math <b>ACT 17</b>			#804-123 Math with Business Applications (3 cr.)
COMPASS Pre- Alg <b>0-29</b>	ACT Math <b>16 or below</b>			#834-109 Pre-Algebra (3 cr.)

# Glossary of Terms

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**This glossary contains some of the most commonly used terms at Chippewa Valley Technical College.**

**ACT<sup>®</sup>** - College entrance exam that assesses student's general education development and their ability to complete college-level work.

**Accepted Admission (AA)** - The status of an applicant who has met all requirements for program entry and who has a reserved place in the program core courses.

**Associate Degree** - Applied Science or Applied Arts degree consisting of 60-70 credits designed to provide a person with the attitudes, knowledge, and skills necessary to function at a technician or mid-management level.

**Audit** - Register and pay for a class but without the obligation of completing course work or tests. Auditors do not receive grades or credits for the course.

**Automatic Payment Plan** - A method to pay for tuition and fees in installments throughout the enrolled semester.

**Cashier Connection** - A secure online service for students to view and pay tuition and fees, enroll in an automatic payment plan, setup electronic refunds and to provide access to authorized users.

## **Certificate:**

- **Achievement Credential (AC)** - Consists of one or more courses which may prepare students to enter CVTC training programs or gain knowledge in a particular area. None are offered at this time.
- **Technical Certificate (TC)** - Consists of several related course(s) which prepare a student for an entry-level job or a job upgrade.

**Challenge Exam** - A practical/performance assessment in which a student demonstrates proficiency in the competencies of a course through mastery of technical skills.

**Co-requisite** - a course that must be taken at the same time as another course.

**COMPASS<sup>®</sup>** - An untimed computerized assessment of math, reading, and writing skills of students entering a CVTC program.

**Core Courses** - Required classes specific to a particular degree program. Many core courses are available only to those accepted to the program after having applied for admissions to the college. Core courses are also referred to as "major courses."

**Credit** - Unit of recognition for scholastic work awarded when a course is successfully completed. Courses can be worth 1, 2, 3, or more credits.

**Edvance360** - Edvance360 is CVTC's learning management system. Using Edvance360, you can access course materials, submit assignments, participate in discussions, and take tests and quizzes.

**Elective** - A course which the student selects from a group of alternative courses.

**Financial Aid** - Financial assistance in the form of grants, loans, and work-study assistance which helps defray educational expenses.

**Full-time Student** - Enrolled in at least 12 credits each 16-week term or enrolled in 6 credits in the 8 week summer session.

**General College Courses** - A series of courses designed to improve students' skills prior to enrolling in general education classes. Pre-entry assessment scores will place students in general college courses.

**High School Transcribed Credit Courses** - technical college courses which are taught in the high school including 100 percent of its competencies and rigor.

**Internet Protocol (IP) video** - Two-way interactive audio, video e-learning courses delivered via Internet.

**In-Process Admission** - The status of an applicant who has not yet met all the requirements for program entry.

**Internship** - A practical experience designed to give students supervised experience in their field. (NOTE: Not all programs include internships.)

**Multiple-Entry Programs** - Programs which have four or more starting times throughout the year.

**My CVTC** - This is a one-stop web center for students to access information and tools they need throughout their educational career at CVTC. My CVTC gives students access to their e-mail, learning management system, SIS, College announcements, library, forms, and much more. All students who take credit, online or basic skills courses are automatically assigned a My CVTC account.

**No Show** - Students who do not attend classes or begin the course by the end of the first week of the semester, will be reported to the Registrar's office by the instructor as a "no show" and will be canceled from the course(s). As a "no show", students will receive an 80 percent refund. "No show" status will also impact financial aid, according to the federal financial aid Title IV legislation."

**Noncredit Course** - A course for which no program credit or grade is awarded; usually a course taken only for enrichment, remedial or developmental, improved job performance, or career exploration purposes.

**Part-time Student** - A student enrolled for 11 or fewer credits each 16-week term.

**Pre - or concurrent** - A course that must be taken in a previous term or at the same time as another course as indicated in the course description.

**Pre-program Student** - A student admitted to the college that may not enroll in major core courses due to the program capacity being full or because the student needs to complete specific academic requirements prior to being eligible for the program core courses. Pre-program students in health programs may not enroll in program core courses.

# Glossary of Terms

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**Prepared Learner Courses** - These courses represent a category of classes designed to help CVTC students prepare for the academic demands of General Education courses.

**Prerequisite** - A course that is required before another course can be taken.

**Proficiency Test** - A written and/or hands-on examination designed to allow a student to test out of a course if he or she can demonstrate sufficient mastery of the subject matter.

**Required Course** - A class which a student must successfully complete in order to graduate from a program.

**RISE Courses** - are a form of contextualized learning, which means the course content is taught in the context of how it would be used in “real life.”

**Semester** - A 16-week period of instruction (for example, August to December, January to May). Most classes at the college are a semester in length.

**Summer Session** - An 8-week period (June through July) when a limited number of classes are offered at the college.

**Technical Diploma** - A combination of courses totaling 2 to 68 credits which are designed to provide a person with the knowledge, attitude, and skills necessary to function as an entry-level technician.

**Transcript** - A permanent, official listing of a student’s courses and grades from an educational institution.

**Transcribing a course** - a course in which is placed on an official transcript.

**Transfer Credit** - Credit for work accomplished at one postsecondary institution (for example, a university, technical college, or the military) which is accepted by another postsecondary institution.

**Undeclared Student** - A student who does not indicate a program major on the admissions application or who has not met the requirements for classification as a regular or pre-program student. Undeclared students are not eligible for financial aid.

**Ways of Learning** - CVTC learning options provide flexibility through online, hybrid delivery, or web conferencing of courses in instructional programs. Courses are taught using learning management system, a user-friendly secure website where you access course materials, participate in online discussions, and complete tests and assignments.

- **Online Course** - 100 percent of learning is online (some classes require proctored exams). Interact with the instructor and fellow classmates via learning management system, a “virtual classroom”.
- **Hybrid Course** - Typically one half of course is online and one half is in a classroom or lab. Active and independent learning is promoted. Time on campus is reduced.
- **Web Conferencing** - Course instruction is conducted with the use of Microsoft Lync, which is an online collaboration (web

conferencing) tool that instructors use to present course materials.

**Waiting List** - Comprised of students who have met all application requirements for program entry but are on “stand-by” because the program core courses are filled.

**Withdrawal** - The process of formally dropping all classes after the term has begun but before the withdrawal deadline.

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