

2012-2013

CATALOG

A Reference Guide for
Programs and Courses

2012-2013 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
(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 S. 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

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

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 for the most comprehensive and up-to-date information. Current as of 8-1-2012.

College Directory

Campuses and Buildings	Phone
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	715-874-4655 or 866-399-6853
Eau Claire - West Campus	
• Emergency Service Education Center	715-855-7500
• Transportation Education Center	715-855-7531
Chippewa Falls Campus	715-738-3840
Menomonie Campus	715-232-2685
Neillsville Center	715-743-3965
River Falls Campus	715-425-3301

Business Education Center	Room	Phone
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 [®] /HSED Testing	113	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 1-800-518-8211
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
Veterans Services	113	715-833-6272
Youth Options	113	715-852-6245

College Calendar

2012 Fall Term

August

Aug 22-23 Instructor Inservice
Aug 27 Classes Begin

September

Sep 3 Labor Day Holiday - College Closed

October

Oct 19 End of First 8 Weeks

November

Nov 22-23 Thanksgiving Holiday - College Closed

December

Dec 17 Last Day of First Semester Classes
Dec 18 Instructor Inservice
Dec 18 EC Graduation
Dec 24-25 Christmas Holiday - College Closed

2013 Spring Term

January

Dec 31 & Jan 1 New Year's Holiday - College Closed
Jan 9-10 Instructor Inservice
Jan 14 Classes Begin

March

Mar 8 End of First 8 Weeks
Mar 11-15 Spring Break
Mar 29 Spring Holiday - College Closed

May

May 9 Last Day of Second Semester Classes
May 10 Instructor Inservice
May 10 EC Graduation

2013 Summer Term

May

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

June

Jun 3-Jul 26 8-week Summer Session

July

Jul 4 July 4th Holiday - College Closed
Jul 26 EC Graduation
Jul 29-Aug 20 4-week Interim

2013 Fall Term

August

Aug 21-22 Instructor Inservice
Aug 26 Classes Begin

September

Sep 2 Labor Day Holiday - College Closed

October

Oct 21 End of First 8 Weeks

November

Nov 28-29 Thanksgiving Holiday - College Closed

December

Dec 16 Last Day of First Semester Classes
Dec 17 Instructor Inservice
Dec 18 EC Graduation
Dec 24-25 Christmas Holiday - College Closed

2014 Spring Term

January

Dec 31 & Jan 1 New Year's Holiday - College Closed
Jan 8-9 Instructor Inservice
Jan 13 Classes Begin

March

Mar 13 End of First 8 Weeks
Mar 10-14 Spring Break

April

Apr 18 Spring Holiday - College Closed

May

May 8 Last Day of Second Semester Classes
May 8 EC Graduation
May 9 Instructor Inservice

2014 Summer Term

May

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

June

Jun 2-Jul 25 8-week Summer Session

July

Jul 4 July 4th Holiday - College Closed
Jul 26 EC Graduation
Jul 28 4-week Interim Begins

Table of Contents

College Campuses/Centers	1
College Directory	2
College Calendar	3
Table of Contents-Programs	5
Table of Contents-Certificates.....	6
Table of Contents River Falls Campus.....	7
College Overview	8
District Board	
Vision and Mission	
Purpose of the Catalog	
Affirmative Action Compliance Statement	
Guaranteed Student Retraining	
Accreditation	
Ways of Learning	9
E-Learning, Online, Hybrid, Web Conferencing	
Open Labs, Rise Courses, Traditional	
Academic Services.....	10
Programs (in alphabetical order)	12
Apprenticeships	124
Short Term Training Certificates (in order by category)	125
Course Descriptions (in numerical order)	131
Liberal Arts Courses	216
Prepared Learner Courses	218
Prepared Learner	226
Fee Estimates Chart.....	222
Graduate Follow-Up Study	224
Glossary of Terms	228
Index	230

Table of Contents - Programs

Agriculture, Food and Natural Resources

• Agriscience Technician	16
+Farm Business & Production Management	58
• Landscape, Plant & Turf Management	76

Architecture and Construction

• Air Conditioning, Heating & Refrigeration Technology	18
• Civil Engineering Technician - Structural	36
+Electrical Power Distribution	52
+Environmental Refrigeration, Air Conditioning & Heating Service Technician	56
+Residential Construction	110

Business, Finance and Marketing

• Accounting	12
• Administrative Professional	14
• Business Management	30
• Human Resources	64
• Marketing Management	84

Health Sciences

• Alcohol & Other Drug Abuse	20
+Central Service Technician	32
+Dental Assistant	42
• Dental Hygienist	44
• Diagnostic Medical Sonography	46
• Health Information Technology	62
+Medical Assistant	86
• Medical Laboratory Technician (formerly Clinical Laboratory ... Technician)	88
• Nursing - Associate Degree	94
+Nursing Assistant	96
+Pharmacy Technician	102
• Physical Therapist Assistant	104
• Radiography	106
+Renal Dialysis Technician	108
• Respiratory Therapist	112
+Surgical Technologist	114

Human Services

+Barber-Cosmetologist	28
+Child Care Services	34
• Early Childhood Education	50

Information Technology

• Information Technology - Network Specialist	72
• Information Technology - Programmer/Analyst	74

Law, Public Safety and Security

• Criminal Justice - Law Enforcement	38
+Criminal Justice - Law Enforcement Academy	40
• Fire Medic	60
• Paralegal	98
• Paramedic Technician	100

Manufacturing

• Electromechanical Technology	54
+Industrial Mechanic	70
+Machine Tooling Technics	80
+Welding	120
+Welding Fabrication	122

Science, Technology, Engineering and Mathematics - STEM

• Industrial Engineering Technician	68
• Manufacturing Engineering Technologist	82
• Nano Engineering Technology	92

Transfer Programs

• Liberal Arts - Associate of Science	78
---	----

Transportation, Distribution and Logistics

+Auto Collision Repair & Refinish Technician	22
+Automotive Maintenance Technician	24
+Automotive Technician	26
+Diesel/Heavy Equipment Technician (Truck Technician)	48
+Motorcycle, Marine & Outdoor Power Products Technician	90
+Truck Driving	118

Other

• Individualized Technical Studies	66
• Technical Studies-Journeyworker	116

• Associate Degree Program

+Technical Diploma

Table of Contents - Certificates

Business, Finance & Marketintg

Customer Service Representative	125
Entertainment, Sports & Event Marketing.....	125
Human Resource Generalist	125
Leadership/Supervision.....	125
Marketing Management.....	125
Professional Selling	125
Records & Information Management Specialist.....	126
Retail Merchandising	126
Small Business Accounting.....	126
Small Business Marketing	126
Software Specialist.....	126

Health Science

Critical Care Nursing	127
Emergency Department Nursing.....	127

Information Technology

.NET - VB/ASP.....	127
3D Game/Simulation Programming 1	127
3D Game/Simulation Programming 2	127
Cisco Networking Academy	128
IT Network Support Associate.....	128
Database Analysis & Development	128
JAVA.....	128
Mobile Application Development.....	128
Network Hardware Support Specialist.....	128
Web Development 1	129
Web Development 2.....	129
Web Multimedia.....	129

Law, Public Safety & Security

Emergency Medical Technician.....	129
Paralegal Post-Baccalaureate.....	129

Manufacturing

Advanced Machining-Swiss	130
CAD Operator	130
CNC Machining Retraining	130

Table of Contents - River Falls Campus

Programs

Administrative Professional.....	14
Business Management	30
Criminal Justice – Law Enforcement.....	38
Human Resources	64
Liberal Arts - Associate of Science.....	78
Marketing Management.....	84
Nursing – Associate Degree.....	94
Nursing Assistant	96
Residential Construction.....	110

Certificates

Customer Service Representative	125
Software Specialist.....	126



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 Email at 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 Email at 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

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

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) starting fall 2012. 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.

Academic Services/Learning Center

(Offered in Chippewa Falls, Eau Claire, Menomonie, Neillsville, 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 bring 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-on-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 Centers

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 E.
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 S. Wasson Lane
River Falls, WI 54022
(715) 426-8208

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

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 require 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



2010-11 Employment Facts

Average Hourly Wage \$14.05
Average Monthly Income \$2393.78

Employers

Alliance Collection Agencies, Inc.; Marshfield, WI
American Red Cross Chippewa Valley Chapter; Altoona, WI
Brown Dog Trucking; Menomonie, WI
Clark County; Neillsville, WI
Claude M. Anderson; St. Paul, MN
Country Jam USA; Eau Claire, WI
EO Johnson Co.; Eau Claire, WI
Farmers Insurance; Cadott, WI
Harmon Solutions Group; Eau Claire, WI
Marten Transport; Mondovi, WI
Mega Foods; Eau Claire, WI
RunvaUSA; Menomonie, WI
Schwan's Consumer Brands of North America; Bloomington, MN
Sentry Insurance; Stevens Point, WI

First Term	Credits
101-111 Accounting I.....	4
101-121 Payroll Accounting.....	2
103-102 Microsoft Office Suite.....	2
801-195 Written Communication.....	3
Choose 1 course(s) from the following:	
804-123 Math w Business Apps.....	3
804-189 Introductory Statistics.....	3
Choose 1 course(s) from the following:	
809-122 Intro to Amer Government.....	3
809-197 Contemporary Amer Society.....	3
Total Credits.....	17

Second Term	Credits
101-106 Acctg Spdsheets & Calculations.....	2
101-113 Accounting II.....	4
101-150 Accounting Software Apps.....	3
102-160 Business Law.....	3
801-196 Oral/Interpersonal Comm.....	3
801-198 Speech.....	3
Total Credits.....	18

Third Term	Credits
101-116 Intermediate Accounting I.....	4
101-123 Income Tax I.....	4
101-125 Cost Accounting.....	3
809-198 Intro to Psychology.....	3
Choose 1 course(s) from the following:	
101-133 Acctg for Govt & Nonprofit Entities.....	2
101-134 Personal Financial Planning.....	2
Total Credits.....	16

Fourth Term	Credits
101-117 Intermediate Accounting II.....	4
101-118 Managerial Accounting.....	3
101-131 Accounting Systems.....	3
101-160 Accounting Internship.....	2
809-195 Economics.....	3
Choose 1 course(s) from the following:	
101-126 Income Tax Preparation.....	2
101-127 Auditing.....	2
Total Credits.....	17

Minimum Program Credits Required - 68

Short-Term Training Certificate(s)

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

For a complete listing of course descriptions see back of catalog.

101-106 Acctg Spdsheets & Calculations

This course introduces students to the touch method for ten-key calculators. Students are also introduced 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

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

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

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.

Notes

Administrative Professional

Associate Degree
Two Years

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

10-106-6

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



2010-11 Employment Facts

Average Hourly Wage \$14.17
Average Monthly Income \$2465.26

Employers

American Family Insurance; Eau Claire, WI
Andersen Corp.; Menomonie, WI
Aurora Community Services; Menomonie, WI
Chippewa County Court House; Chippewa Falls, WI
Chippewa Valley Technical College; Eau Claire, WI
Cornell Elementary School; Cornell, WI
Dunn Co. Solid Waste; Menomonie, WI
Hawksford Dental; Radisson, WI
IDEXX Computer Systems; Eau Claire, WI
J & F Buildings, Inc.; Altoona, WI
J Ryan Bonding; Hudson, WI
Leerburg Enterprises Inc; Menomonie, WI
Martin Transport; Mondovi, WI
Mayo Health Systems; many locations in Wisconsin
Marshfield Clinic; multiple cities in Wisconsin
Memorial Medical Center; Neillsville, WI
Menards, Inc.; Eau Claire, WI
Minneapolis Veterans Affairs Health Care System; Minneapolis, MN
Nu-Pak; Richland Center, WI
Red Cedar Medical Center; Menomonie, WI
Royal Bank; Elroy, WI
Royal Credit Union; Eau Claire, WI
Sacred Heart Hospital; Eau Claire, WI
Securian Financial Group; St. Paul, MN
Smead Manufacturing; Hastings, MN
Spectrum Industries; Chippewa Falls, WI
Stenzel Clinic; Eau Claire, WI
TTM Technologies; Chippewa Falls, WI
United Parcel Service; Baldwin, WI
Weld, Riley, Prenn, and Ricci; Eau Claire, WI
WESTconsin Credit Union; Menomonie, WI
Western Dairyland; Eau Claire, WI
Wisconsin Bench; Thorp, WI
Workforce Resource; Menomonie, WI

First Term	Credits
103-102 Microsoft Office Suite	2
106-105 Business Words at Work	3
106-119 eSkillbuilding	1
106-132 Exploring Office Environments	2
106-140 Office Procedures	3
106-146 Quality Customer Service	2
106-163 Computer Success	2
Choose 1 course(s) from the following:	
809-198 Intro to Psychology	3
809-199 Psychology of Human Relations	3
Total Credits.....	18
Second Term	Credits
106-101 Business Technology & Trends	2
106-164 Business Presentations & Publ	3
106-171 Adv Software Applications	3
106-172 Office Communication	2
801-196 Oral/Interpersonal Comm	3
809-172 Race Ethnic & Diversity	3
Total Credits.....	16
Third Term	Credits
106-158 Meeting & Event Planning	2
106-173 Web Technologies	3
106-174 Business Software Solutions	3
801-195 Written Communication	3
Choose 1 course(s) from the following:	
106-162 Legal Terminology	3
196-193 Human Resource Management	3
501-101 Medical Terminology	3
Choose 1 course(s) from the following:	
804-123 Math w Business Apps	3
804-189 Introductory Statistics	3
Total Credits.....	17
Fourth Term	Credits
106-138 Office Internship.....	2
106-175 Admn Professional Developement	2
809-166 Intro to Ethics: Theory & App	3
809-195 Economics	3
Choose 2 credits from the following:	
102-112 Principles of Management	3
106-141 Computer Applications-Legal	3
530-103 Medical Insurance & Billing	2
Choose 3 credits from the following:	
101-105 Accounting, Intro to	3
101-111 Accounting I	4
Total Credits.....	15

Minimum Program Credits Required - 66

Short-Term Training Certificate(s)

- (TC-106-10) Software Specialist, 11 Credits
- (TC-106-5) Records & Info Mgmt Specialist, 15 Credits
- (TC-106-6) Customer Service Rep, 10 Credits

For a complete listing of course descriptions see back of catalog.

103-102 Microsoft Office Suite

The goal of this course is to provide an opportunity for students to use Microsoft Office 2007 as it is utilized in academic and business environments. Students will become familiar with the Office 2007 interface and use it as they work with Word, Excel, Access, and PowerPoint.

106-101 Business Technology & Trends

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.

106-132 Exploring Office Environments

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.

106-158 Meeting & Event Planning

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.

Notes

Offered in Eau Claire • August and January entry dates

10-006-3

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:

- 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

- Sales/Service Representative
- Reproductive Management Specialist

2010-11 Employment Facts

Average Hourly Wage \$9.79

Average Monthly Income \$2340.76

Employers

Accelerated Genetics
Countryside Co-op
Farm Service Agency
Blacks Valley Ag
Cenex/CRI
Land Conservation Department
Natural Resources Conservation Service
North Star Co-op
Select Sire



First Term	Credits
006-116 Introductory Soils	3
006-123 Agriculture Equipment	3
006-180 Animal Science	3
103-102 Microsoft Office Suite	2
801-195 Written Communication	3
804-107 College Mathematics	3
Elective	2
Total Credits	19

Second Term	Credits
006-110 Genetics	1
006-138 Principles of Ag-Products Mktg	3
006-151 Plant Protection Products	2
006-161 Weed Identification	2
007-111 Applied Biotechnology	2
806-134 General Chemistry	4
Choose 1 course(s) from the following:	
006-160 Plant Science	3
006-182 Animal Reproduction	3
Elective	3
Total Credits	20

Third Term	Credits
006-190 Agriscience Internship	3
Choose 1 course(s) from the following:	
006-164 Plant Pathology and Entomology	2
006-184 Herd Health & Sanitation	2
Total Credits	5

Fourth Term	Credits
006-120 Livestock Computer Apps	2
006-122 Agriculture Facilities	2
006-130 Agribusiness Financial Mgmt.	2
006-140 Agribusiness Sales	3
809-195 Economics	3
Choose 1 course(s) from the following:	
006-114 Legal Aspects of Agriscience	2
006-168 Row Crop Management	2
006-192 Farm Business Spanish	2
Choose 1 course(s) from the following:	
006-162 Soil Fertility and Fertilizers	2
006-188 Feed Analysis	2
Total Credits	16

Fifth Term	Credits
809-198 Intro to Psychology	3
Choose 1 course(s) from the following:	
006-166 Computer Applic-Agronomy	2
006-186 Managing Youngstock & Dry Cows	1
Choose 1 course(s) from the following:	
006-169 Forage Crop Management	2
006-189 Ration Formulation	2
Choose 1 course(s) from the following:	
809-196 Intro to Sociology	3
809-199 Psychology of Human Relations	3
Choose 1 course(s) from the following:	
801-196 Oral/Interpersonal Comm	3
801-198 Speech	3
Total Credits	12

Minimum Program Credits Required - 68

For a complete listing of course descriptions see back of catalog.

006-114 Legal Aspects of Agriscience

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

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 soil concepts through the completion of hands-on activities.

006-120 Livestock Computer Apps

This course will apply the use of livestock management software, database management software, spreadsheets and specialized on-farm applications.

006-122 Agriculture Facilities

Livestock building design, drying grain, forage crops; movement and storage of grains, forages, and manure storage.

006-123 Agriculture Equipment

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.

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.

Notes

Offered in Eau Claire • August and January entry dates, and selected evening courses.

10-601-1

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

2010-11 Employment Facts

Average Hourly Wage \$15.08

Average Monthly Income \$2875.23

Employers

Christie Heating and Cooling; Eau Claire, WI
Comfort Air; Wisconsin Rapids, WI
MEP Associates; Colorado Springs, CO
Tonna Mechanical Inc; Rochester, MN
Vantage Refrigeration; Marshfield, WI



First Term		Credits
601-110	Principles of Heat & Air Flow	4
601-111	Principles of Refrigeration	2
601-115	Renewable Energies for HVAC	1
601-116	Principles of Air Conditioning	2
601-125	Safety-HVAC	1
601-141	Electricity-HVAC	3
801-195	Written Communication	3
804-113	College Technical Math 1A	3
Total Credits		19
Second Term		Credits
601-114	Plan & Print Reading	2
601-119	Hydronic/Geothermal Systems Design	3
601-120	Geothermal/Solar Applications	2
601-130	Sheet Metal Layout	1
601-142	Schematic Wiring-HVAC	2
601-161	HVAC Load Calc & Psychometric	3
804-114	College Technical Math 1B	2
809-199	Psychology of Human Relations	3
Total Credits		18
Third Term		Credits
601-112	Principles of Air Handling	4
601-143	Advanced HVAC Controls	3
601-165	CAD - HVAC	3
806-143	College Physics 1	3
809-195	Economics	3
Total Credits		16
Fourth Term		Credits
601-113	HVAC Systems Design	3
601-117	Drafting-HVAC	2
601-118	Sustainability for HVAC	2
601-151	Technical Problems-HVAC	3
801-197	Technical Reporting	3
809-197	Contemporary American Society	3
Total Credits		16

Minimum Program Credits Required - 69

For a complete listing of course descriptions see back of catalog.

601-110 Principles of Heat & Air Flow

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

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 coppertube 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

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 & Psychometric.

601-113 HVAC Systems Design

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). They 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 & Psychometric. Co-requisite(s): 601-117 Drafting-HVAC.

Notes

**Air Conditioning, Heating,
& Refrigeration Technology**

Offered in Eau Claire • August entry date

10-550-1

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 Department of Regulation and Licensing.

Career Opportunities

- AODA Counselor
- Substance Abuse Counselor
- Chemical Dependency Counselor

2010-11 Employment Facts

Average Hourly Wage \$12.22

Average Monthly Income \$2095.03

Employers

9AM; Madison, WI
Affinity House; Eau Claire, WI
Arbor Place; Menomonie, WI
Burkwood Treatment Center; Hudson, WI
Community Counseling Services; Chippewa Falls, WI
Duluth Bethel; Duluth, MN
Eau Claire Academy; Eau Claire, WI



First Term		Credits
550-108	Substance Use: Risk & Reality.....	3
550-113	Intro to Prev & Trtmt Profession.....	3
550-114	Ethics & Public Policy.....	3
801-195	Written Communication.....	3
801-196	Oral/Interpersonal Comm.....	3
809-198	Intro to Psychology.....	3
Total Credits.....		18
Second Term		Credits
550-102	AODA Counseling/Interviewing.....	3
550-110	Theories & Methods of AODA Trt.....	3
550-154	Culturally Skilled Counseling.....	3
550-161	AODA and Corrections.....	3
801-197	Technical Reporting.....	3
809-188	Developmental Psychology.....	3
Total Credits.....		18
Third Term		Credits
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		4
Fourth Term		Credits
550-104	Internship I.....	2
550-111	Group Facilitation.....	2
550-115	AODA Assess & Treatment Plng.....	3
550-121	Info Mgmt for Prev & Treatment.....	2
550-122	Pharmacology-Substance Abuse.....	3
550-160	Psychiatric Disease and AODA.....	3
809-196	Intro to Sociology.....	3
Total Credits.....		18
Fifth Term		Credits
550-106	Internship Advanced I.....	3
550-107	Internship Advanced II.....	3
550-120	Family & Community Systems.....	3
550-150	Issues-Internship II Seminar.....	3
Total Credits.....		12

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

550-102 AODA Counseling/Interviewing

Introduction and application of basic counseling/communication micro-skills used in individual and group therapy. Miller’s Motivational Interviewing is 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 801-196 Oral/Interpersonal Comm and 809-198 Intro to Psychology and 550-108 Substance Use: Risk & Reality.

550-104 Internship I

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) or 806-189 Basic Anatomy (or taken concurrently).

Notes

Alcohol & Other Drug Abuse

Auto Collision Repair & Refinish Technician

Technical Diploma
One Year

Offered in Eau Claire • August and January entry dates

31-405-1

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, nonstructural 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

2010-11 Employment Facts

Average Hourly Wage \$10.00

Average Monthly Income \$2058.18

Employers

Aerco Autobody; Altoona, WI

Auto Vision Center; Eau Claire, WI

Markquart Facilities; Eau Claire, and Hallie, WI

Superior auto Body; Eau Claire, WI

TruBilt Auto Body; Eau Claire, WI



First Term		Credits
405-301	Introduction to Auto Collision	1
405-355	Auto Body Basics	5
405-356	Nonstructural Repair	5
405-382	Paint Technology	2
442-315A	Welding for Auto Collision	2
Total Credits		15
Second Term		Credits
405-357	Refinishing	5
405-358	Structural Repair	5
405-375	Estimating & Structural Repair	2
804-360C	Math Tech Trades-Auto & Sm Eng	2
Choose 1 course(s) from the following:		
801-195	Written Communication	3
801-351	Applied Communication.....	2
Total Credits		16
Third Term		Credits
405-352	Advanced Collision Repair.....	5
405-381	Auto Collision Mechanical.....	1
Total Credits		6

Minimum Program Credits Required - 37

For a complete listing of course descriptions see back of catalog.

405-352 Advanced Collision Repair

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. Restricted to students admitted to the following program(s): 31-405-1 Auto Collision Rpr & Ref Tech.

405-355 Auto Body Basics

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

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

Students will complete paint jobs, spot repair, color blending, sanding techniques and taping. Prerequisite(s): 405-356 Nonstructural Repair.

405-358 Structural Repair

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

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.

Notes

Auto Collision Repair & Refinish Technician

Automotive Maintenance Technician

Technical Diploma
One Year

Offered in Eau Claire • August entry date

31-404-3

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

2010-11 Employment Facts

Average Hourly Wage \$11.00

Average Monthly Income \$1906.52

Employers

D&A Auto; Unity, WI

Ken Vance Car City Honda; Eau Claire, WI

Keyes Chevrolet; Menomonie, WI

Northside Auto; Arkansaw, WI



First Term		Credits
404-335	Automotive Fundamentals	1
Total Credits		1

Second Term		Credits
404-336	Basic Vehicle Maintenance	4
404-337	Automotive Electricity 1	2
404-338	Automotive Electricity 2	3
404-339	Automotive Brake Systems	3
442-313	Welding-Automotive Technician	1
804-360C	Math Tech Trades-Auto & Sm Eng	2
Total Credits		15

Third Term		Credits
404-350	Auto Steering & Suspension Sys	4
404-351	Auto Engine Performance 1	2
404-352	Auto Engine Performance 2	3
404-355	Auto Engine Performance 3	3
801-351	Applied Communications	2
Total Credits		14

Minimum Program Credits Required - 30

For a complete listing of course descriptions see back of catalog.

404-335 Basic Automotive Fundamentals

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.

404-336 Basic Vehicle Maintenance

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 and 404-339 Automotive Brake Systems.

404-337 Automotive Electricity 1

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 and 404-339 Automotive Brake Systems.

Notes

Auto Maintenance Technician

Offered in Eau Claire • August entry date

32-404-2

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

2010-11 Employment Facts

Average Hourly Wage \$9.32

Average Monthly Income \$1681.93

Employers

AutoCare Center; Eau Claire, WI

Markquart Toyota; Chippewa Falls, WI

Tires Plus; Eau Claire, WI

Youngstedts; Eau Claire, WI



First Term		Credits
404-335	Automotive Fundamentals	1
Total Credits		1

Second Term		Credits
404-336	Basic Vehicle Maintenance	4
404-337	Automotive Electricity 1	2
404-338	Automotive Electricity 2	3
404-339	Automotive Brake Systems	3
442-313	Welding-Automotive Technician	1
804-360C	Math Tech Trades-Auto & Sm Eng	2
Total Credits		15

Third Term		Credits
404-350	Auto Steering & Suspension Sys	4
404-351	Auto Engine Performance 1	2
404-352	Auto Engine Performance 2	3
404-355	Auto Engine Performance 3	3
801-351	Applied Communication	2
Total Credits		14

Fourth Term		Credits
404-356	Automotive HVAC Systems	4
404-357	Auto Safety & Security Systems	2
Total Credits		6

Fifth Term		Credits
404-360	Auto Axles & Drive Trains	2
404-361	Manual Trnsmission & Trnsaxles	3
404-362	Auto Trnsmission & Trnsaxles	4
404-363	Engine Repair	3
809-351	Occupational Relations	2
Total Credits		14

Sixth Term		Credits
404-370	Adv Auto Chassis Systems	4
404-371	Adv Engine Perf & Alt Fuels	3
404-372	Service Simulation	3
404-373	High Performance Automotive	1
404-374	ASE Test Preparation	1
Total Credits		12

Minimum Program Credits Required - 62

For a complete listing of course descriptions see back of catalog.

404-356 Automotive HVAC Systems **4 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): 404-350 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): 404-357 Auto Safety & Security Systems.

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): 404-356 Automotive HVAC Systems and 404-357 Auto Safety & Security Systems. Co-requisite(s): 404-361 Manual Trnsmission & Trnsaxles and 404-362 Auto Trnsmission & Trnsaxles and 404-363 Engine Repair.

404-370 Adv Auto Chassis Systems **4 cr**
 A 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): 404-360 Auto Axles & Drive Trains and 404-361 Manual Trnsmission & Trnsaxles and 404-362 Auto Trnsmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-371 Adv Engine Perf & Alt Fuels and 404-372 Service Simulation and 404-373 High Performance Automotive and 404-374 ASE Test Preparation.

Notes

Offered in Eau Claire • August entry date

31-502-1

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 Barber-Cosmetologist program.

CVTC has recently created a state-of-the-art barber-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

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

Class attendance is critical. The program includes six eight-week sessions, for a total of 1,800 hours, meeting the Wisconsin requirement for licensure.

Graduates must be 18 years old or older to take the state exam.

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



- 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 barber-cosmetologist field, you have options!

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.

Career Opportunities

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

2010-11 Employment Facts

This is a new program; graduate employment information is not available.

Employers

Creative Designs; Whitehall, WI
Mia and Maxx; Eau Claire, WI
Pro-Cuts; Eau Claire, WI
Sports Clips; Chippewa Falls, WI
Sports Clips; Eau Claire, WI
Sports Clips; Lake Hallie, WI
SuperCuts; Onalaska, WI
Trade Secret; Eau Claire, WI

First Term		Credits
502-301	Haircutting 1	2
502-304	Haircutting 2	3
502-310	Chemical Services 1	3
502-320	Nail Technology	2
502-321	Salon Services 1	4
801-351	Applied Communication	2
806-321	Salon Science	2
Total Credits		18

Second Term		Credits
104-301	Salon Marketing	2
502-311	Hair Styling	2
502-314	Chemical Services 2	3
502-322	Salon Services 2	4
502-323	Salon Services 3	4
502-330	Facial Services	2
Total Credits		17

Third Term		Credits
102-302	Salon Business Operations	2
502-305	Haircutting 3	3
502-324	Salon Services 4	4
Total Credits		9

Fourth Term		Credits
502-325	Salon Services 5	4
502-371	Advanced Salon Operations	3
809-351	Occupational Relations	2
Total Credits		9

Minimum Program Credits Required - 53

For a complete listing of course descriptions see back of catalog.

102-302 Salon Business Operations

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. Restricted to students admitted to the following program(s): 31-502-1 Barber-Cosmetologist.

104-301 Salon Marketing

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. Co-requisite(s): 502-314 Chemical Services 2 and 502-322 Salon Services 2. Restricted to students admitted to the following program(s): 31-502-1 Barber-Cosmetologist.

502-301 Haircutting 1

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 Barber-Cosmetologist.

502-310 Chemical Services 1

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 Barber-Cosmetologist.

Notes

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

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.

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

2010-11 Employment Facts

Average Hourly Wage \$13.43

Average Monthly Income \$2397.75

Employers

CEVA Logistics; Jacksonville, FL
Chippewa Valley Habitat for Humanity; Eau Claire, WI
Community Counseling Services; Chippewa Falls, WI
Dunn County Clerk of Court; Menomonie, WI
Eau Claire County Department of Human Services; Eau Claire, WI
GNP Property Management; Eau Claire, WI
Hyde Center for the Arts; Chippewa Falls, WI
Highland Inn; River Falls, WI
Ken Vance Motors, Inc; Eau Claire, WI
LeVeille Management; Rice Lake, WI
Menards, Inc.; Eau Claire, WI
Midwestern Wheels, Inc; Madison, WI
Nelson True Value; Cumberland, WI
Phillips Medisize; Menomonie, WI
Plant Enterprises; Eau Claire, WI
Rock & Tait Exteriors, LLC; Chippewa Falls, WI
United Health Group; Eau Claire, WI



First Term		Credits
102-131	Introduction to Business	3
103-102	Microsoft Office Suite	2
104-102	Marketing Principles	3
196-193	Human Resource Management	3
801-195	Written Communication	3
809-198	Intro to Psychology	3
Total Credits		17
Second Term		Credits
102-112	Principles of Management	3
102-113	Business Ethics	3
104-104	Professional Selling	3
801-196	Oral/Interpersonal Comm	3
Choose 3 credits from the following:		
101-105	Accounting, Intro to	3
101-111	Accounting I	4
Total Credits		15
Third Term		Credits
101-184	Business Finance & Budgeting	3
102-109	Software Skills for Bus Mgr	2
102-116	Management Decision Making	3
102-188	Project Management	3
801-198	Speech	3
809-195	Economics	3
Total Credits		17
Fourth Term		Credits
102-114	Managing Operations	3
102-115	Business Mgmt Internship	1
102-117	Planning Your Bus Mgmt Career	2
102-150	International Business	3
196-190	Leadership Development	3
809-196	Intro to Sociology	3
Choose 1 course(s) from the following:		
804-123	Math w Business Apps	3
804-189	Introductory Statistics	3
Total Credits		18

Minimum Program Credits Required - 67

Note: Students enrolled in the business management, human resources, or marketing management programs will register for the same courses in the first semester of their programs. By the end of the second semester, students must declare which of the three degree programs they intend to complete. Students will have the option to complete more than one program, graduating with more than one degree.

For a complete listing of course descriptions see back of catalog.

101-184 Business Finance & Budgeting

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.

102-113 Business Ethics

Stresses how ethics apply specifically to business managers in 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.

102-112 Principles of Management

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.

102-116 Management Decision Making

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): 103-102 Microsoft Office Suite.

Notes

Central Service Technician

Technical Diploma
Less Than One Year

Offered in Eau Claire • January entry date

30-534-1

The Central Service Technician program could be for you if you are

- interested in a career in the healthcare field.
- seeking a short-term educational program.
- able to work as part of a team.
- well-organized, with an eye for detail.
- 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 IAHCSSM.

Central Service is an emerging occupation and will expand as health care 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

2010-11 Employment Facts

Average Hourly Wage \$11.70

Average Monthly Income \$2027.84

Employers

Mayo Clinic Health System; Eau Claire, WI
Mayo Clinic Health System; Menomonie, WI
St. Joseph's Hospital; Chippewa Falls, WI
Sacred Heart Hospital; Eau Claire, WI



First Term	Credits
103-102 Microsoft Office Suite	2
501-101 Medical Terminology.....	3
534-300 Central Serv Tech, Fundamentals	3
534-302 Central Serv Tech Clinical	1
806-301 Basic Microbiology.....	2
Choose 3 credits from the following:	
509-302 Human Body in Health & Disease	3
806-177 Gen Anatomy & Physiology.....	4
Total Credits.....	14

Minimum Program Credits Required - 14

For a complete listing of course descriptions see back of catalog.

534-300 Central Serv Tech, Fundamentals

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. Restricted to students admitted to the following program(s): 30-534-1 Central Serv Technician.

534-302 Central Serv Tech Clinical

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 534-300 Central Serv Tech, Fundamentals (or taken concurrently) and 806-301 Basic Microbiology (or taken concurrently). Restricted to students admitted to the following program(s): 30-534-1 Central Serv Technician.

Notes

Central Service Technician

Offered in Eau Claire • August entry date

31-307-1

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

2010-11 Employment Facts

Average Hourly Wage \$9.35
Average Monthly Income \$1552.66

Employers

ABC's Daycare and Preschool; Menomonie, WI
Genesis Child Care Center; Eau Claire, WI
Kid Watch; Chicago, IL
REM Wisconsin; Cadott, WI
Regis Child Care Center; Eau Claire, WI
Self-Employed; Eau Claire, WI
Young Impressions, Inc.; Iola, WI



First Term	Credits
307-148 ECE: Foundations of ECE	3
307-151 ECE: Infant & Toddler Dev	3
307-166 ECE: Curriculum Planning	3
307-167 ECE: Hlth Safety & Nutrition	3
307-174 ECE: Practicum 1	3
Choose 1 course(s) from the following:	
801-195 Written Communication	3
801-351 Applied Communication.....	2
Total Credits	17

Second Term	Credits
307-178 ECE: Art Music & Lang Arts	3
307-179 ECE: Child Development	3
307-188 ECE: Guiding Child Behavior.....	3
307-192 ECE: Practicum 2	3
Choose 2 credits from the following:	
809-198 Intro to Psychology	3
809-351 Occupational Relations.....	2
Total Credits	14

Minimum Program Credits Required - 31

For a complete listing of course descriptions see back of catalog.

307-148 ECE: Foundations of ECE

This course introduces you to the early childhood profession. Course competencies include: integration of strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; 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

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.

307-166 ECE: Curriculum Planning

This course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; examine caregiving routines as curriculum; develop activity plans that promote child development and learning; develop unit plans that promote child development and learning; analyze 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.

Notes

Civil Engineering Technician - Structural

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-607-5

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.

2010-11 Employment Facts

Average Hourly Wage \$14.81

Average Monthly Income \$2836.00

Employers

Adecco/Nestle; Eau Claire, WI
Ahern Fire Protection; Fond du Lac, WI
Ambassador Steel; Menomonie, WI
American Structural Metals; Somerset, WI
Badge Aire; Chippewa Falls, WI
Cedar Corporation; Menomonie, WI
Ericksen-Rood & Associates; St. Paul, MN
Global Finishing Solutions; Osseo, WI
La Crosse Technical Consultants, Inc.; La Crosse, WI
Luther Hospital; Eau Claire, WI
Merrill Iron and Steel; Schofield, WI
Tiry Engineering; Chippewa Falls, WI
Valley Custom Welding; Elmwood, WI



First Term		Credits
607-100	Draft. Fund./Wood Frame Const.	3
607-125	Mechanical Systems	3
607-140	Structural Analysis	4
607-164	CAD Civil	3
Choose 5 credits from the following:		
804-113	College Technical Math 1A	3
804-114	College Technical Math 1B	2
804-115	College Technical Math 1	5
Total Credits		18
Second Term		Credits
607-111	Architectural Drafting I.....	3
607-117	Revit Architecture	3
607-123	Construction Steel	3
607-124	Construction Concrete.....	2
801-195	Written Communication	3
804-116	College Technical Math 2	4
Total Credits		18
Third Term		Credits
607-113	Architectural Drafting II	3
607-148	Structural Drafting I.....	4
607-152	Construction Methods	2
607-155	Soil Mechanics Surveying.....	4
Choose 4 credits from the following:		
806-154	General Physics 1.....	4
806-276	Principles General Physics 1	5
Total Credits		17
Fourth Term		Credits
607-149	Structural Drafting II	2
607-151	Tech Problems-Civil Structural	3
607-160	Model Based Steel Detailing	3
801-197	Technical Reporting	3
809-195	Economics	3
809-199	Psychology of Human Relations	3
Total Credits		17

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

607-100 Draft. Fund./Wood Frame Const.

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

This course provides instruction in commercial architectural drafting. Emphasis is placed on drafting techniques; lettering; and drafting of details, plans, evaluations, 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 Architectural CAD.

607-124 Construction Concrete

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).

Notes

**Civil Engineering Technician-
Structural**

Offered in Eau Claire and River Falls • August entry date

10-504-1

The criminal justice field is becoming increasingly complex and important. This career area needs people who have good skills and 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

2010-11 Employment Facts

Average Hourly Wage \$15.49

Average Monthly Income \$2709.36

Employers

American Security; Madison, WI
Dunn County Sheriff's Department; Menomonie, WI
Eau Claire County Sheriff's Department; Eau Claire, WI
Eau Claire Police Department; Eau Claire, WI
Fairchild Police Department; Fairchild, WI
Fall Creek Police Department; Fall Creek, WI
Frederick Police Department; Frederick, WI
Securitas; Wausau, WI
Shell Lake Police Department; Shell Lake, WI
St. Croix County; Hudson, WI
TTM Technologies; Chippewa Falls, WI
Trempealeau County Sheriff's Office; Whitehall, WI
Village of Cameron Police Department; Cameron, WI



First Term	Credits
504-900 Criminal Justice, Intro to.....	3
504-902 Criminal Law.....	3
504-907 Community Policing Strategies.....	3
801-171 Business English.....	3
804-107 College Mathematics.....	3
Total Credits.....	15
Second Term	Credits
504-170 Corrections, Intro to.....	3
504-904 Juvenile Law.....	3
504-908 Traffic Theory.....	3
801-195 Written Communications.....	3
809-172 Race Ethnic & Diversity.....	3
809-199 Psychology of Human Relations.....	3
Total Credits.....	18
Third Term	Credits
504-107 Law Enforcement Crisis Management.....	2
504-903 Professional Communications.....	3
504-905 Police Report Writing.....	3
809-196 Intro to Sociology.....	3
Choose 3 credits from the following:	
809-122 Intro to Amer Government.....	3
809-197 Contemporary American Society.....	3
Choose 3 credits from the following:	
504-103 LE Strategies for Employment.....	3
504-175 Law Enforcement Cert I.....	4
531-110 Emergency Medical Technician.....	4
Total Credits.....	17
Fourth Term	Credits
504-121 Patrol Procedures.....	4
504-901 Constitutional Law.....	3
504-906 Criminal Investigation Theory.....	3
801-196 Oral/Interpersonal Comm.....	3
Choose 3 credits from the following:	
504-162 Contemp. Issues in Crim. Just.....	3
504-166 Field Experience-Crim Justice.....	3
504-176 Law Enforcement-Cert II.....	4
Total Credits.....	16

Minimum Program Credits Required - 66

For a complete listing of course descriptions see back of catalog.

504-103 LE Strategies for Employment

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.

504-902 Criminal Law

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.

504-901 Constitutional Law

Arrest with and without warrants; searches with or without warrants; exclusionary rules. Prerequisite(s): (504-902 Criminal Law or 504-113 Criminal Law).

504-121 Patrol Procedures

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. Restricted to students admitted to the following program(s): 10-504-1 Criminal Justice-Law Enforce.

504-906 Criminal Investigation Theory

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.

Notes

Criminal Justice - Law Enforcement

Offered in Eau Claire • August and January entry dates

30-504-1

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)
- Satisfactory controlled substance testing (at student's expense within 60 days before Academy start date)
- Valid driver's license
- No felony or domestic related conviction

Upon acceptance to the Academy, you must submit the results of a medical exam (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 and review the program information (www.cvtc.edu/Applications/catalog/admissinfo/30-504-1.pdf), or call an Enrollment Assistant at 1-800-547-2882.

Career Opportunities

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

2010-11 Employment Facts

Average Hourly Wage \$19.19

Average Monthly Income \$3438.09

Employers

Arcadia Police Department
Black River Falls Police Department
City of Eau Claire Police Department
Eau Claire County Sheriff's Office
Hammond Police Department
Juneau County Sheriff's Department
Madison Police Department
Pierce County Sheriff's Department
Somerset Police Department
St. Croix County Sheriff's Department
Watersmeet Tribal Police
Webster Police Department

First Term	Credits
504-350 Police Academy Scenario Eval.....	1
504-351 Policing in America.....	1
504-352 The Legal Context.....	2
504-353 Tactical Skills.....	3
504-354 Relational Skills.....	3
504-355 Patrol Procedures.....	4
504-356 Investigations.....	2
Total Credits.....	16

Minimum Program Credits Required - 16

For a complete listing of course descriptions see back of catalog.

504-350 Police Academy Scenario Eval

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

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

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.

Notes

Criminal Justice - Law Enforcement Academy

Offered in Eau Claire • August and January entry dates

30-508-2

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 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.

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

2010-11 Employment Facts

Average Hourly Wage \$14.29

Average Monthly Income \$2329.69

Employers

Blue Diamond Family Dental; Bloomer, WI
C and B Dental Studio; Eau Claire, WI
CVTC Dental Clinic; Eau Claire, WI
Christman Dental LTD; Chippewa Falls, WI
Community Dental; Black River Falls, WI
Dr. K. Dillard, Family Dental Care of La Crosse; La Crosse, WI
Hillside Dental; Eau Claire, WI
Joe Theisen Dental; Eau Claire, WI
Marshfield Clinic; various Wisconsin locations
Oak Park Dental; Eau Claire, WI
Oral Maxillofacial Surgery & Associates; Eau Claire, WI
Oral Surgery Associates; Mequon, WI



First Term	Credits
508-101 Dental Health Safety.....	1
508-302 Dental Chairside.....	5
508-304 Dental & General Anatomy.....	2
508-305 Applied Dental Radiography.....	2
508-306 Dental Assistant Clinical.....	3
508-307 Dental Assistant Professional.....	1
Choose 1 course(s) from the following:	
508-113 Dental Materials.....	2
508-303 Dental Materials.....	2
Total Credits.....	16

Minimum Program Credits Required - 16

For a complete listing of course descriptions see back of catalog.

508-101 Dental Health Safety

Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; 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.

508-302 Dental Chairside

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.

508-303 Dental Materials

Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. They also learn to take alginate impressions on 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.

Notes

Dental Assistant

Dental Hygienist

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-508-1

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 (xray) 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. A counselor 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 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.
- 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

2010-11 Employment Facts

Average Hourly Wage \$23.04

Average Monthly Income \$3654.24

Employers

Badger Family Dental; Chippewa Falls, WI
Blue Diamond Family Dental; Bloomer, WI
CVTC Dental Clinic; Eau Claire, WI
Dr. Sacia; Mondovi, WI
Dr. Edward Dunbar and Dr. Peter Rydell; Shell Lake and Hayward, WI
Dr. James Haley; Chippewa Falls, WI
Filson Gentle Dentistry; Bayport, MN
Ladysmith High School; Ladysmith, WI
Midwest Dental; Eau Claire, WI
Oral Surgery; Eau Claire, WI
Eau Claire Family Dental; Eau Claire, WI
Summit Dental; Eau Claire, WI

First Term (8 weeks)		Credits
806-177	Gen Anatomy & Physiology	4
Total Credits		4

Second Term		Credits
508-101	Dental Health Safety	1
508-102	Oral Anatomy, Embry, Histology	4
508-103	Dental Radiography	2
508-105	Dental Hygiene Process 1	4
806-186	Intro to Biochemistry	4
806-197	Microbiology	4
Total Credits		19

Third Term		Credits
508-106	Dental Hygiene Process 2	4
508-108	Periodontology	3
508-109	Cariology	1
508-110	Nutrition and Dental Health	2
508-111	General & Oral Pathology	3
Choose 1 course(s) from the following:		
801-195	Written Communication	3
801-219	English Composition 1	3
Total Credits		16

Fourth Term		Credits
508-112	Dental Hygiene Process 3	5
508-113	Dental Materials	2
508-114	Dental Pharmacology	2
508-115	Community Dental Health	2
508-119	Dental Hyg Natl Board Review	1
809-198	Intro to Psychology	3
Total Credits		15

Fifth Term		Credits
508-107	Dental Hygiene Ethics & Profes	1
508-116	Dental Pain Management	1
508-117	Dental Hygiene Process 4	4
508-118	Health Occupations Career	1
809-188	Developmental Psychology	3
Choose 3 credits from the following:		
801-196	Oral/Interpersonal Comm	3
801-198	Speech	3
Choose 3 credits from the following:		
809-172	Race Ethnic & Diversity	3
809-196	Intro to Sociology	3
Total Credits		16

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

508-101 Dental Health Safety

Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA Standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/dental histories. CPR certification is a prerequisite; 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.

508-102 Oral Anatomy, Embry, Histology

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. Restricted to students admitted to the following program(s): 10-508-1 Dental Hygienist.

508-103 Dental Radiography

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.

508-109 Cariology

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).

Notes

Dental Hygienist

Diagnostic Medical Sonography

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-526-2

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; e-mail 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 or through a program counselor.
- 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.

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

2010-11 Employment Facts

Average Hourly Wage \$26.87
Average Monthly Income \$4113.04

Employers

Abbott Northwestern; Minneapolis, MN
Aspirus Wausau Hospital; Wausau, WI
Aurora Hartford Hospital; Hartford, WI
Baptist Health; Jacksonville, FL
Bay Area Medical Center; Marinette, WI
Community Health Network; Berlin, WI
Franciscan Skemp; La Crosse, WI
Marshfield Clinic; Marshfield, WI
Mayo Clinic; Rochester, MN
Riverside Regional Medical Center; New Port News, VA
St. Luke's Hospital; Duluth, MN

First Term		Credits
501-101	Medical Terminology.....	3
526-200	Introduction to DMS.....	3
804-113	College Technical Math 1A	3
806-154	General Physics 1	4
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		17
Second Term		Credits
526-207	Abdominal Sonography	4
526-208	OB/GYN Sonography 1	3
526-210	Cross Sectional Anatomy	2
526-221	Sonography Physics 1	3
526-223	Vascular Imaging 1	3
806-179	Adv Anatomy & Physiology.....	4
Total Credits.....		19
Third Term		Credits
801-195	Written Communication	3
809-196	Intro to Sociology	3
Total Credits.....		6
Fourth Term		Credits
526-203	Scanning With Proficiency	1
526-211	Superficial Sonography	2
526-212	OB/GYN Sonography 2	3
526-222	Sonography Physics 2	2
526-224	Vascular Imaging 2	3
801-196	Oral/Interpersonal Comm	3
809-198	Intro to Psychology	3
Total Credits.....		17
Fifth Term		Credits
526-209	DMS Clinical Experience 1.....	2
526-226	DMS Clinical Experience 2.....	4
Total Credits.....		6
Sixth Term		Credits
526-215	DMS Clinical Experience 3.....	4
526-217	Registry Review.....	1
Total Credits.....		5

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

501-101 Medical Terminology

This course focuses on the component parts of medical terms: pre-fixes, 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.

526-200 Introduction to DMS

This course introduces learners to the field of Diagnostic Medical 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

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.

526-212 OB/GYN Sonography 2

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.

Notes

Diagnostic Medical Sonography

Offered in Eau Claire • August entry date

32-412-1

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
- Controlled substance testing prior to beginning core courses

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

2010-11 Employment Facts

Average Hourly Wage \$15.12

Average Monthly Income \$3120.36

Employers

Eau Claire Mack & Volvo Trucks; Eau Claire, WI
Eau Claire Truck & Trailer; Eau Claire, WI
Excel Truck and Trailer; Rapid City, SD
MDMA Equipment; Durand, WI
Marten Transport; Mondovi, WI
Vita Plus Smith Transport; Loyal, WI
Wal-Mart Fleet; Menomonie, WI



First Term		Credits
412-305	Truck Chassis I	5
412-306	Truck Chassis II	5
412-345	Basic DC Electricity	2
442-314B	Related Welding for Diesel.....	2
801-351	Applied Communication.....	2
Total Credits.....		16
Second Term		Credits
412-307	Chassis Electrical.....	5
412-308	Mechanical Gear Trains.....	4
412-309	HVAC & Refrigeration	3
458-320	CDL License Training	1
804-361	Math 10	2
Total Credits.....		15
Third Term		Credits
412-310	Diesel Engine Oper & Tune-up	4
412-311	Applied Mobile Hydraulics	2
412-312	Intro to Electronic Control	4
412-320	Diesel Equipment Service Mgmt.....	2
419-301	Related Fluid Power	1
420-347	Related Machine Tool.....	2
806-341	Vocational Science.....	2
Total Credits.....		17
Fourth Term		Credits
412-313	Diesel Engine Overhaul.....	5
412-314	Electronic Diagnostics.....	4
412-315	Preventive Maintenance	1
412-380	Diesel Internship.....	2
442-320A	Related Welding Diesel, Adv.....	2
809-351	Occupational Relations.....	2
Total Credits.....		16

Minimum Program Credits Required - 64

For a complete listing of course descriptions see back of catalog.

412-305 Truck Chassis I

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

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

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 Air Conditioning/Refrigeration.

412-308 Mechanical Gear Trains

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 Air Conditioning/Refrigeration.

Notes

Diesel/Heavy Equipment Technician

Offered in Eau Claire • August entry date

10-307-1

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, pre-schools, 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

2010-11 Employment Facts

Average Hourly Wage \$11.82

Average Monthly Income \$1895.21

Employers

Brighter Beginnings Early Learning Center; Eau Claire, WI
Cassie's House Daycare; Eau Claire, WI
Color My World -- South; Eau Claire, WI
Ladybug Land Child Care; Chippewa Falls, WI
Learning Depot; Whitewater, WI
Little Bloomers Daycare; Eau Claire, WI
Mayo Health Child Dev. Center; Eau Claire, WI
Self-employed; Stanley, WI
YMCA; Chippewa Falls, WI



First Term		Credits
307-148	ECE: Foundations of ECE	3
307-151	ECE: Infant & Toddler Dev	3
307-166	ECE: Curriculum Planning	3
307-167	ECE: Hlth Safety & Nutrition	3
307-174	ECE: Practicum 1.....	3
801-195	Written Communication	3
Total Credits.....		18
Second Term		Credits
307-178	ECE: Art Music & Lang Arts.....	3
307-179	ECE: Child Development.....	3
307-188	ECE: Guiding Children's Behavior	3
307-192	ECE: Practicum 2.....	3
809-198	Intro to Psychology	3
Total Credits.....		15
Third Term		Credits
307-194	ECE: Math Science & Soc St.....	3
307-195	ECE: Family & Community Rel.....	3
307-197	ECE: Practicum 3.....	3
804-107	College Mathematics	3
809-122	Intro to Amer Government.....	3
809-128	Marriage & Family	3
Total Credits.....		18
Fourth Term		Credits
307-187	ECE: Children w Diff Abilities	3
307-198	ECE: Admin an ECE Program	3
307-199	ECE: Practicum 4.....	3
809-172	Race Ethnic & Diversity	3
Choose 1 course from the following:		
801-196	Oral/Interpersonal Comm	3
801-198	Speech	3
	Elective.....	3
Total Credits.....		18

Minimum Program Credits Required - 69

For a complete listing of course descriptions see back of catalog.

307-148 ECE: Foundations of ECE

This course introduces you to the early childhood profession. Course competencies include: integration of strategies that support diversity and anti-bias perspectives; investigate the history of early childhood education; summarize types of early childhood education settings; identify the components of a quality early childhood education program; summarize responsibilities of early childhood education professionals; 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

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.

307-166 ECE: Curriculum Planning

This course examines the components of curriculum planning in early childhood education. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; examine the critical role of play; establish a developmentally appropriate environment; examine caregiving routines as curriculum; develop activity plans that promote child development and learning; develop unit plans that promote child development and learning; analyze 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.

Notes

Offered in Eau Claire • August entry date

31-413-2

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



2010-11 Employment Facts

Average Hourly Wage \$20.64

Average Monthly Income \$3967.31

Employers

Alliant Energy; Beaver Dam, WI

Alliant Energy; Madison, WI

Barron Electric; Barron, WI

Great Lakes Line Builders; Greenville, WI

Jackson County Electric; Black River Falls, WI

Richland Electric Cooperative; Richland Center, WI

Riverland Electric; Alma, WI

Riverland Energy Coop; Arcadia, WI

Self - Higher Power LLC; Stanley, WI

Village of New Glarus; New Glarus, WI

Xcel Energy; Eau Claire, WI

Xcel Energy; Mankato, MN

Dairyland Power Cooperative; La Crosse, WI

First Term	Credits
413-303 Elec Power Dist Fund 1A.....	4
413-304 Elec Power Dist Fund 1B.....	4
413-305 Elec Power Dist Fund 1C-AppLab	5
458-320 CDL License Training	1
804-363 Math for Electricity & Electrnc.....	2
Choose 2 credits from the following:	
801-195 Written Communication	3
801-351 Applied Communication.....	2
Total Credits.....	18

Second Term	Credits
413-306 Elec Power Dist Fund 2A.....	4
413-307 Elec Power Dist Fund 2B.....	4
413-308 Elec Power Dist Fund 2C-AppLab	4
806-341 Vocational Science.....	2
809-351 Occupational Relations.....	2
Total Credits.....	16

Minimum Program Credits Required - 34

For a complete listing of course descriptions see back of catalog.

413-303 Elec Power Dist Fund 1A

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 Elec Power Dist Fund 1B and 413-305 Elec Power Dist Fund 1C-AppLab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

413-304 Elec Power Dist Fund 1B

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 Elec Power Dist Fund 1A and 413-305 Elec Power Dist Fund 1C-AppLab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

413-305 Elec Power Dist Fund 1C-AppLab

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 Elec Power Dist Fund 1A and 413-304 Elec Power Dist Fund 1B. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

Notes

Electrical Power Distribution

Offered in Eau Claire • August and January entry dates

10-620-1

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

2010-11 Employment Facts

Average Hourly Wage \$20.21

Average Monthly Income \$3859.23

Employers

CHS; Inver Grove Heights, MN
Cummins Filtration; Bloomer, WI
Edwards Electric Inc.; Stanley, WI
Great Northern Corporation; Chippewa Falls, WI
HTI; Eau Claire, WI
Midwest Manufacturing; Eau Claire, WI
OakRiver Technology; Oakdale, MN
Phillips Plastics Corporation; Menomonie, WI
Preco; Somerset, WI
TTM Technologies; Chippewa Falls, WI
Yale Materials Handling; Eau Claire, WI



First Term		Credits
605-107	Basic Electronic	3
612-101	Related Fluid Power	2
620-101	Automated Processes	2
620-155	Industrial Electronics I	2
620-193	Electronic Software Applic	2
801-195	Written Communication	3
804-113	College Technical Math 1A	3
Total Credits		17
Second Term		Credits
605-108	Devices & Digital	3
605-109	Industrial Computer Technology	3
620-135	PLC Introduction	2
620-156	Industrial Electronics II	2
620-158	Sensors & Servo Systems	2
809-199	Psychology of Human Relations	3
804-114	College Technical Math 1B	2
Total Credits		17
Third Term		Credits
420-190	Machine Tool Processes	3
606-185	Blueprint Reading	1
620-136	PLC Applications	3
620-144	Applied EM Machine Principles	2
620-145	Industrial Robotics Systems	2
620-191	Motion Control Applications	3
806-154	General Physics 1	4
Total Credits		18
Fourth Term		Credits
605-152	Real Time Data Acquisition	2
620-146	Machine Troubleshooting Tech	2
620-147	Control Applications	2
620-148	EM System Interfacing	4
620-150	Instrumentation	2
801-197	Technical Reporting	3
809-195	Economics	3
Total Credits		18

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

620-101 Automated Processes

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.

605-152 Real Time Data Acquisition

This course will focus on industrial application 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. Prerequisite: Experience in MS Windows and Excel required. Prerequisite(s): 620-136 PLC Applications.

620-136 PLC Applications

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).

620-147 Control Applications

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.

620-158 Sensors & Servo Systems

Theory and application of various types of sensors and Servo/PID control systems. Application, wiring, and configuration of non-contact sensors within automated systems are covered. Theory of servo loops and PID (Proportional, Integral, Derivative) control systems using analog sensors is studied. Prerequisite(s): 620-156 Industrial Electronics II (or taken concurrently).

Notes

Environmental Refrigeration, Air Conditioning, & Heating Service Technician

Technical Diploma
One Year

Offered in Eau Claire • August entry date

31-401-1

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

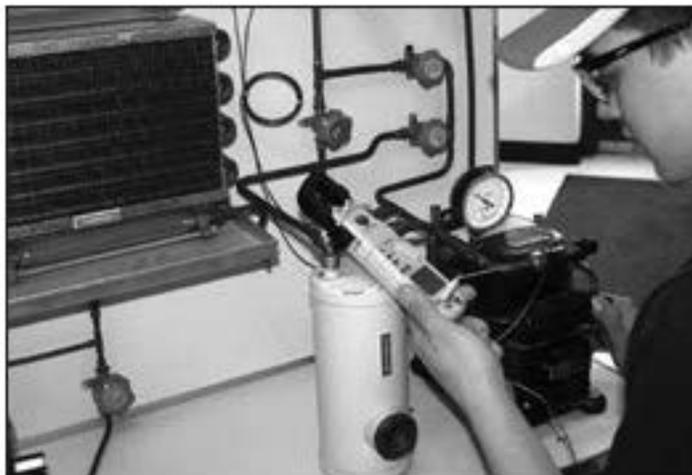
Career Opportunities

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

2010-11 Employment Facts

Average Hourly Wage \$15.61

Average Monthly Income \$3211.84



Employers

Courtesy Corporation - McDonalds; Onalaska, WI
Erv Smith; Eau Claire, WI
Metropolitan Service; Eau Claire, WI
University of Wisconsin-Eau Claire; Eau Claire, WI
Cray, Inc.; Chippewa Falls, WI
Ace Methanol; Stanley, WI
Benedict Refrigeration; Altoona, WI

First Term	Credits
601-110 Principles of Heat & Air Flow	4
601-111 Principles of Refrigeration	2
601-115 Renewable Energies for HVAC	1
601-116 Principles of Air Conditioning	2
601-125 Safety-HVAC	1
601-141 Electricity-HVAC.....	3
801-351 Applied Communication.....	2
804-360B Math for Tech Trades-Ref AC Ht	2
Total Credits.....	17

Second Term	Credits
601-120 Geothermal/Solar Applications.....	2
601-121 HVAC/R Service & Applications.....	3
601-130 Sheet Metal Layout	1
601-142 Schematic Wiring-HVAC	2
601-151 Technical Problems-HVAC	3
601-161 HVAC Load Calc & Psychrometrics.....	3
809-351 Occupational Relations.....	2
Total Credits.....	16

Minimum Program Credits Required - 33

For a complete listing of course descriptions see back of catalog.

601-110 Principles of Heat & Air Flow

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

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 coppertube 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.

601-115 Renewable Energies for HVAC

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 & Refrg Tech, 31-401-1 Refrig. A/C Htg. Service Tech.

601-130 Sheet Metal Layout

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.

Notes

Environmental Refrigeration, Air Cond, & Heating Service Technician

Offered at various locations throughout the district • Fall entry date

30-090-1

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 rota-

tion; 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

Helpful Background

- High school agriculture
- Business management

Career Opportunities

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

2010-11 Employment Facts

Follow-up information is not available.

Employers

- Self-Employed



First Term	Credits
090-310 Farm Bus Planning & Risk Mgmt.....	4
090-320 Land Use Management.....	4
090-330 Precisin Agronomics & Energy Mgmt.....	4
090-340 Livestock Nutrition & Reproductn.....	4
090-350 Farm Bus Analysis & Mrkt Strat.....	4
090-360 Livestk Fac, Health & Biosecurity.....	4
Total Credits.....	24

Minimum Program Credits Required - 24

For a complete listing of course descriptions see back of catalog.

090-310 Farm Bus Planning & Risk Mgmt

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.

090-320 Land Use Management

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. Restricted to students admitted to the following program(s): 30-090-1 Farm Bus & Production Mgmt.

090-330 Precisin Agronomics & Energy Mgmt

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.

090-340 Livestock Nutrition & Reproductn

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.

090-350 Farm Bus Analysis & Mrkt Strat

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.

090-360 Livestk Fac, Health & Biosecurity

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.

Notes

Farm Business & Production Management

Offered in Eau Claire • January entry date

10-531-2

If you keep a clear head during emergencies and want to help people in need, the Fire Medic 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

2010-11 Employment Facts

Average Entry Hourly Wage \$13.64
Average Monthly Income \$2857.37
(Based on 56 hours per week)

Employers

Fire departments throughout Wisconsin and the Midwest: Chippewa, Chippewa Fire District, La Crosse, Marshfield, Menomonie, Green Bay, Eau Claire, Oshkosh, Stevens Point
Red Wing Fire Department; Red Wing, MN
Biolife Plasma Services; Eau Claire, WI
Lifelink; Minneapolis, MN



First Term		Credits
503-105	Principles of Firefighting	3
503-107	Fire Dept Apparatus Ops	3
801-195	Written Communication	3
804-107	College Mathematics	3
809-172	Race Ethnic & Diversity	3
809-198	Intro to Psychology	3
Total Credits		18
Second Term		Credits
503-106	Fire Inspection Services	2
503-141	Special Rescue	3
531-911	EMS Fundamentals	2
801-196	Oral/Interpersonal Comm	3
809-188	Developmental Psychology	3
809-196	Intro to Sociology	3
Total Credits		14
Third Term		Credits
531-912	Paramedic Medical Principles	4
531-913	Patient Assessment Principles	3
531-914	Pre-hospital Pharmacology	3
531-915	Paramedic Respiratory Mgmt	2
531-916	Paramedic Cardiology	4
Total Credits		16
Fourth Term		Credits
531-917	Paramedic Clinical/Field 2	3
531-919	Paramedic Medical Emergencies	4
Total Credits		7
Fifth Term		Credits
503-130	Fire Internship	2
531-920	Paramedic Trauma	3
531-921	Special Patient Populations	3
531-922	EMS Operations	1
531-924	Paramedic Clinical/Field 2	4
Total Credits		13

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

503-105 Principles of Firefighting

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

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.

503-107 Fire Dept Apparatus Ops

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.

503-141 Special Rescue

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

Notes

Offered in Eau Claire • August and January entry dates

10-530-1

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

2010-11 Employment Facts

Average Hourly Wage \$13.03
Average Monthly Income \$2217.39

Employers

Mayo Clinic Health System; Eau Claire, Osseo, Bloomer, Barron, WI
Marshfield Clinic; Eau Claire, Chippewa Falls, WI
Sacred Heart Hospital; Eau Claire, WI
Oakleaf Surgical Hospital; Eau Claire, WI
St. Joseph’s Hospital; Chippewa Falls, WI
Dove Healthcare; Eau Claire, WI
Clairemont Nursing & Rehabilitation; Eau Claire, WI
Community Health Partnership, Inc.; Eau Claire, WI
Group Health Cooperative; Eau Claire, WI
United Health Group; Eau Claire, WI

First Term		Credits
501-130	Healthcare IT	2
501-101	Medical Terminology.....	3
530-176	Health Data Management	2
530-181	Intro to the Health Record.....	1
530-182	Human Disease for Hlth Profes	3
806-177	General Anatomy & Physiology.....	4
Total Credits.....		15
Second Term		Credits
530-178	Healthcare Law & Ethics.....	2
530-184	CPT Coding	3
530-197	ICD Diagnosis Coding.....	3
530-199	ICD Procedure Coding	2
801-195	Written Communication	3
804-123	Math w Business Apps	3
Total Credits.....		16
Third Term		Credits
801-196	Oral/Interpersonal Comm	3
Choose 3 credits from the following:		
809-198	Intro to Psychology	3
809-199	Psychology of Human Relations.....	3
Total Credits.....		6
Fourth Term		Credits
530-160	Healthcare Informatics	4
530-177	Healthcare Statistics & Research	2
530-185	Healthcare Reimbursement	2
530-195	Applied Coding	2
530-196	Professional Practice 1.....	3
Choose 1 course(s) from the following:		
809-174	Social Problems	3
809-196	Intro to Sociology	3
Total Credits.....		16
Fifth Term		Credits
530-150	Applied HIM Technology	3
530-161	Health Quality Management	3
530-194	HIM Organizational Resources.....	2
530-198	Professional Practice 2.....	3
Choose 1 course(s) from the following:		
809-172	Race Ethnic & Diversity.....	3
809-195	Economics.....	3
809-197	Contemporary American Society.....	3
Total Credits.....		14

Minimum Program Credits Required - 67

For a complete listing of course descriptions see back of catalog.

530-160 Healthcare Informatics

Emphasized 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.

530-177 Healthcare Stats & Research

Explores the management of medical data for statistical purposes. Focuses on descriptive statistics, including definitions, collection, calculation, compilation, and display of numerical data. Vital statistics, registries, and research are examined. Prerequisite(s): 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

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.

530-182 Human Disease for Hlth Profes

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).

Notes

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

10-196-4

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 Resource 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

This program includes an 80-hour internship during the final semester. You will coordinate with your instructor to locate an appropriate internship site. The internship may be paid or unpaid.

Career Opportunities

- Human Resource Generalist
- Recruiter
- Staffing Coordinator

- Human Resource Specialist
- Payroll Assistant
- Benefits Coordinator
- Human Resource Assistant

2010-11 Employment Facts

This is a new program; graduate employment information is not available.

Employers

This is a new program; graduate employment information is not available.



First Term		Credits
102-131	Introduction to Business	3
103-102	Microsoft Office Suite	2
104-102	Marketing Principles	3
196-193	Human Resource Management	3
801-195	Written Communication	3
809-198	Intro to Psychology	3
Total Credits		17

Second Term		Credits
102-112	Principles of Management	3
104-104	Professional Selling	3
196-127	Employee Relations	3
801-196	Oral/Interpersonal Comm	3
Choose 3 credits from the following:		
101-105	Accounting, Intro to	3
101-111	Accounting I	4
Total Credits		15

Third Term		Credits
102-113	Business Ethics	3
196-110	Employee Benefits	3
196-113	Human Resource Law	3
196-114	Recruitment & Selection	3
801-198	Speech	3
809-195	Economics	3
Total Credits		18

Fourth Term		Credits
101-121	Payroll Accounting	2
196-111	Perform Mgmt & Empl Reward Sys	3
196-128	Human Resources Internship	1
196-136	Safety in the Workplace	3
809-172	Race Ethnic & Diversity	3
Choose 1 course(s) from the following:		
196-112	Training Systems	3
196-190	Leadership Development	3
Choose 1 course(s) from the following:		
804-123	Math w Business Apps	3
804-189	Introductory Statistics	3
Total Credits		18

Minimum Program Credits Required - 68

Short-Term Training Certificate(s)

- (TC-196-2) Human Resource Generalist, 15 Credits

- (TC-196-7) Leadership/Supervision 12 Credits

Note: Students enrolled in the business management, human resources, or marketing programs will register for the same courses in the first semester of their programs. By the end of the second semester, students must declare which of the three degree programs they intend to complete. Students will have the option to complete more than one program, graduating with double or triple majors

For a complete listing of course descriptions see back of catalog.

196-113 Human Resource Law

This course is designed to help the participant understand the law as it applies to the management of human resources. It addresses such topics as ADA compliance, hiring practices, discrimination issues, sexual harassment, and other human resource issues. Its coverage is aimed at helping HR employees recognize legal problems, to know the legal impact of decisions on personnel matters and to be knowledgeable in general of the law as it might impact individuals in organizations.

196-114 Recruitment & Selection

This course is designed to help the participant understand the law as it applies to the management of human resources. It addresses such topics as ADA compliance, hiring practices, discrimination issues, sexual harassment, and other human resource issues. Its coverage is aimed at helping HR employees recognize legal problems, to know the legal impact of decisions on personnel matters and to be knowledgeable in general of the law as it might impact individuals in organizations.

102-112 Principles of Management

Students learn about the four managerial functions of planning, organizing, leading, and controlling in contemporary organizations. A series of self-assessment questions provide insight into personal behaviors and help students turn managerial theories into potential personal managerial practices. Students learn how management processes apply to a global environment.

196-110 Employee Benefits

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 every dynamic retirement programs used today. An emphasis will be on health insurance, cafeteria plans, and a functional approach to employee benefit planning. A course outcome will be planning and preparing a company sponsored benefit plan.

Notes

Offered in Eau Claire

10-825-1

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

2010-11 Employment Facts

Graduate employment information is not available.

Employers

Jobs/positions that reflect your self-identified career goals



First Term **Credits**

Elective	13
Choose 6 credits from the following:	
801-195 Written Communication	3
801-196 Oral/Interpersonal Comm	3
801-197 Technical Reporting	3
801-198 Speech	3
Total Credits	19

Second Term **Credits**

Elective	13
Choose 3 credits from the following:	
809-122 Intro to Amer Government	3
809-128 Marriage & Family	3
809-166 Intro to Ethics: Theory & App	3
809-172 Race Ethnic & Diversity	3
809-174 Social Problems	3
809-195 Economics	3
809-196 Intro to Sociology	3
809-197 Contemporary Amer Society	3
Total Credits	16

Third Term **Credits**

Elective	13
Choose 3 credits from the following:	
809-159 Abnormal Psychology	3
809-188 Developmental Psychology	3
809-198 Intro to Psychology	3
809-199 Psychology of Human Relations.....	3
Total Credits	16

Fourth Term **Credits**

Elective	10
Choose 3 credits from the following:	
804-107 College Mathematics	3
804-113 College Technical Math 1A	3
804-118 Interm Algebra w Apps	3
804-123 Math w Business Apps	3
804-133 Math & Logic	3
806-134 General Chemistry	4
Total Credits	13

Minimum Program Credits Required - 64

For a complete listing of course descriptions see back of catalog.

801-195 Written Communications

Develops writing skills which include prewriting, 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 46 or ACT English Assessment 17) 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 asmt Y).20-800-2 Liberal Arts-Assoc of Science

801-196 Oral/Interpersonal Comm

Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

801-198 Speech

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.

804- Mathematics

Choose any course(s) that begin with 804.

806- Natural Science

Choose any course(s) that begin with 806.

Notes

Industrial Engineering Technician

Associate Degree
Two Years

Offered in Eau Claire • August entry date.

10-623-1

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

2010-11 Employment Facts

This is a new program; graduate employment information is not available.

Employers

This is a new program; graduate employment information is not available.



First Term	Credits
606-185 Blueprint Reading	1
623-108 Intro to Mfg Lab Science	3
801-195 Written Communication	3
806-134 General Chemistry	4
Choose 5 credits from the following:	
804-113 College Technical Math 1A	3
804-114 College Technical Math 1B	2
804-115 College Technical Math 1	5
Total Credits	16
Second Term	Credits
103-102 Microsoft Office Suite	2
623-112 Manufacturing Food Processes	2
623-118 Food Processing Regulations	2
635-118 Intro to Biotechnology	3
806-115 Food Microbiology	2
806-130 Intro to Microbiology	1
809-196 Intro to Sociology	3
Total Credits	15
Third Term	Credits
623-114 Industrial Practicum	3
Total Credits	3
Fourth Term	Credits
623-116 Lab Electronics	3
635-103 Lab Science Instrumentation	2
635-105 Nanomaterials	3
635-108 Micro and Nano Fabrication	2
801-196 Oral/Interpersonal Comm	3
804-189 Introductory Statistics	3
Total Credits	16
Fifth Term	Credits
623-110 Haz Analysis & Crit Cntrl Pts	2
625-110 Mfg & Quality Assurance	3
625-160 Core Manufacturing Skills	2
635-150 Mfg Processes and Lab Science	2
809-198 Intro to Psychology	3
Choose 1 course(s) from the following:	
102-112 Principles of Management	3
196-188 Project Management	3
606-161 CAD, Basic	3
Total Credits	15

Minimum Program Credits Required - 65

For a complete listing of course descriptions see back of catalog.

623-108 Intro to Mfg Lab Science

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.

623-110 Haz Analysis & Crit Cntrl Pts

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

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.

623-156 Facil Layout & Mat Handling

Essential elements of plant layout and materials handling; material flow; design of physical arrangement of industrial facilities from individual workplace to comprehensive plant layout.

Notes

Industrial Engineering Technician

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

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)

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

- Maintenance
- 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

2010-11 Employment Facts

Average Hourly Wage \$19.46

Average Monthly Income \$3753.12

Employers

Contour Plastics; Baldwin, WI

Nestle Nutrition; Eau Claire, WI

Trient Technologies; Woodville, WI



First Term	Credits
419-116 Basic Hydraulics.....	3
419-117 Basic Pneumatics.....	3
442-120 Related Welding-Indust Mech.....	2
462-110 Mechanical Concepts.....	4
462-115 Industrial PC Applications.....	2
620-130 Industrial Elec Concepts.....	3
Total Credits.....	17

Second Term	Credits
420-125 Related Machine Tool Concepts.....	2
462-110 Centrifugal Pumps & Alignment.....	4
462-121 Repair Automated Mfg Equip.....	4
462-122 Preventative & Periodic Maint.....	2
462-123 Troubleshooting PLC Systems.....	3
462-124 Industrial Mechanics Document.....	2
Total Credits.....	17

Third Term	Credits
419-118 Pneumatic System Operations.....	2
462-130 Mechanical Print Read & Schem.....	1
462-131 Machine Trblsht & Repr, Adv.....	2
Choose 1 course(s) from the following:	
601-100 Basic HVAC Concepts.....	2
601-101 Refrigeration Systems.....	2
419-102 Hydraulic System Operations.....	2
Total Credits.....	7

Minimum Program Credits Required - 41

For a complete listing of course descriptions see back of catalog.

419-116 Basic Hydraulics

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): 31-462-2 Industrial Mechanic.

462-110 Mechanical Concepts

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): 31-462-2 Industrial Mechanic.

462-340 Troubleshooting PLC Systems

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.

462-311 Mechanical Print Read & Schem

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.

Notes

Information Technology - Network Specialist

Associate Degree
Two Years

Offered in Eau Claire • August and January entry dates

10-150-2

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+	605-128 A+ Review
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

2010-11 Employment Facts

Average Hourly Wage \$15.36

Average Monthly Income \$2661.89

Employers

City of Eau Claire; Eau Claire, WI
State of Wisconsin; Madison, WI
Phillips Plastics Corporation; Eau Claire, WI
Sterling Data Center; Chetek, WI
Best Buy; Eau Claire, WI
CHIPS Computer Services; Hugo, MN
Ashley Furniture; Arcadia, WI
Benefit Plan Administrators; Eau Claire, WI
Chippewa Valley Technical College; Eau Claire, WI
Community Health Partnership; Eau Claire, WI
Eau Claire Area School District; Eau Claire, WI
IDEXX; Eau Claire, WI
Mayo Health System; Eau Claire, WI
Menard, Inc.; Eau Claire, WI
Nestle USA Inc.; Eau Claire, WI
Wisconsin Independent Networks; Eau Claire, WI

First Term		Credits
150-120	Network Diagramming.....	1
150-123	IT Networking Concepts	3
150-134	Network Infrastructure Cncepts	2
150-150	Cisco 1: Network Fundamentals.....	3
801-195	Written Communication	3
804-133	Math & Logic.....	3
809-166	Intro to Ethics: Theory & App	3
Total Credits.....		18
Second Term		Credits
150-143	Computer Hardware.....	4
150-151	Cisco 2: Routing Protocol/Conc	3
150-160	Network Directory Services.....	3
150-165	Microsoft Windows Network Adm	3
150-175	Unix System Administration.....	3
Total Credits.....		16
Third Term		Credits
150-153	Cisco 3: LAN Switch & Wireless.....	2
150-170	A+ Review & Advanced Hardware	3
150-180	Adv Network Oper Systems 1	3
150-183	Wireless Networking	2
Choose 1 course(s) from the following:		
150-155	IT Management Concepts.....	2
150-182	Network Specialist Internship	2
Choose 1 course(s) from the following:		
801-196	Oral/Interpersonal Comm	3
801-197	Technical Reporting.....	3
Choose 1 course(s) from the following:		
809-198	Intro to Psychology	3
809-199	Psychology of Human Relations.....	3
Total Credits.....		18
Fourth Term		Credits
150-121	Network Design, Instll & Tblsh	3
150-154	Cisco 4: Accessing the WAN	2
150-181	Adv Network Oper Systems 2	3
150-184	Network Security	2
809-195	Economics	3
Choose 1 course(s) from the following:		
809-172	Race Ethnic & Diversity	3
809-174	Social Problems	3
809-196	Intro to Sociology	3
Total Credits.....		16

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) Ntwrk Hdw Support Specialist, 12 Credits

For a complete listing of course descriptions see back of catalog.

150-180 Adv Network Oper Systems 1

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 Netware Administration and 150-165 Microsoft Windows Network Adm or 150-160 Network Directory Services and 150-175 Unix System Administration and 150-151 Cisco 2: Routing Protocol/Conc and 150-143 Computer Hardware).

150-183 Wireless Networking

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

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.

Notes

Offered in Eau Claire • August and January entry dates

10-152-1

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

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

2010-11 Employment Facts

Average Hourly Wage \$19.10

Average Monthly Income \$3377.09

Employers

B.A. Mason; Chippewa Falls, WI
Choice Products USA, LLC.; Eau Claire, WI
Community Health Partnership, Inc.; Eau Claire, WI
Great Lakes Higher Education; Eau Claire, WI
IDEXX; Eau Claire, WI
JB Systems, LLC; Eau Claire, WI
Mayo Health Systems; Eau Claire, WI
Menards; Eau Claire, WI
Midwest Dental; Eau Claire, WI
OEM Fabricators, Inc; Woodville, WI
PESI; Eau Claire, WI
TTM Technologies; Chippewa Falls, WI
Terra Spectrum Technologies; Des Moines, IA
United Health Care; Eau Claire, WI
Wisconsin Department of Transportation; Hudson, WI



First Term	Credits
152-101 Programming Fund - Java Script	3
152-102 IT-Programr Analyst Exploration	1
152-106 Operating Systems.....	2
152-107 Web 1-HTML & CSS	3
152-132 Database 1	3
809-197 Contemporary American Society.....	3
Total Credits.....	15

Second Term	Credits
152-103 .NET-VB	3
152-108 Web 2-JavaScript & PHP.....	3
152-142 OO Analysis & Design-Java.....	3
801-195 Written Communication	3
804-133 Math & Logic.....	3
Choose 1 course(s) from the following:	
152-136 Database 2	3
152-161 3D Modeling 1	3
Total Credits.....	18

Third Term	Credits
152-129 Java Web Programming	3
152-164 Database-Driven Web Design/Dev	3
801-196 Oral/Interpersonal Comm	3
809-199 Psychology of Human Relations	3
Choose 1 course(s) from the following:	
152-105 .NET-ASP	3
152-162 3D Game/Simulation Programming	3
Choose 1 course(s) from the following:	
152-159 Web Multimedia	3
152-160 C++ Programming.....	3
Total Credits.....	18

Fourth Term	Credits
801-197 Technical Reporting	3
Choose 1 course(s) from the following:	
152-109 XML/AJAX	3
152-165 3D Modeling 2	3
Choose 1 course(s) from the following:	
152-112 Business Intelligence	3
152-151 Mobile Application Development	3
Choose 1 course(s) from the following:	
152-126 Agile Programming	3
152-168 Multimedia Program & Design	3
Choose 1 course(s) from the following:	
152-166 IT-P/A Capstone	2
152-182 Programmer/Analyst Internship	2
Choose 4 credits from the following:	
804-118 Interm Algebra w Apps.....	4
804-189 Introductory Statistics	3
Total Credits.....	18

Minimum Program Credits Required - 69

Short-Term Training Certificate(s)

- (TC-152-5) 3D Game/Sim Programming 1, 12 Credits
- (TC-152-6) Java, 12 Credits
- (TC-152-7) .NET - VB/ASP, 14 Credits
- (TC-152-8) Web Development 1, 9 Credits
- (TC-152-9) Web Development 2, 8 Credits

Short-Term Training Certificate(s) Continued

- (TC-152-10) Web Multimedia, 9 Credits
- (TC-152-11) Dbase Analysis & Development, 8 Credits
- (TC-152-13) 3D Game/Sim Programming 2, 6 Credits
- (TC-152-14) Mobile Application Developmen, 11 Credits

For a complete listing of course descriptions see back of catalog.

152-107 Web 1-HTML & CSS

Create dynamic Web pages using XHTML and Cascading Style Sheets (CSS). Basic knowledge of the Internet recommended. An online offering of this course is available. Restricted to students admitted to the following program(s): 10-152-1 IT-Programmer/Analyst.

152-129 Java Web Programming

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

This course introduces students to SQL (Structured Query Language). Through hands-on activities in and outside the classroom, students practice using SQL to create, populate, manipulate, and query multi-table relational databases. Relational concepts, such as relation table rules and relational algebra, are reviewed and applied as students work with SQL both interactively and in scripts, and in both MySQL and Oracle environments. Prerequisite(s): 152-101 Programming Fund - Java Script (or taken concurrently). Restricted to students admitted to the following program(s): 10-152-1 IT-Programmer/Analyst.

Notes

Offered in Eau Claire • August entry date

10-001-1

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

2010-11 Employment Facts

Average Hourly Wage \$15.00
Average Monthly Income \$2924.78

Employers

Eau Claire School District; Eau Claire, WI
Edina Country Club; Edina, MN
Fryszki's Country Gardens; Eau Claire, WI
Self-Employed; Eau Galle, WI
Wisconsin River Golf Club; Stevens Point, WI

First Term		Credits
001-100	Horticulture, Introduction to	3
001-116	Landscape Plants	3
001-120	Horticulture Soils	3
102-131	Introduction to Business	3
804-107	College Mathematics	3
Total Credits		15
Second Term		Credits
001-103	Turf Mgmt & Irrigation Systems	2
001-108	Bus Apps for Green Industry	2
001-125	Horticulture Equip & Safety	2
801-195	Written Communication	3
806-134	General Chemistry	4
809-172	Race Ethnic & Diversity	3
Total Credits		16
Third Term		Credits
001-109	Horticulture Internship	3
Total Credits		3
Forth Term		Credits
001-102	Landscape Design & Construction	2
001-110	Integrated Plant/Pest Mgmt	2
001-111	Sustainable Land Use Mgmt	3
001-112	Interior Plants & Landscaping	2
809-195	Economics	3
809-198	Intro to Psychology	3
Total Credits		15
Fifth Term		Credits
001-104	Greenhouse Management	2
001-113	Pesticide & Fertilizer App	3
001-114	Entrepreneurship for Green Ind	2
001-115	Vegetable and Fruit Production	2
196-191	Supervision	3
801-196	Oral/Interpersonal Comm	3
802-102	Spanish for the Green Industry	2
Total Credits		17

Minimum Program Credits Required - 66

For a complete listing of course descriptions see back of catalog.

001-100 Horticulture, Introduction to

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 Mgmt

001-102 Landscape Design & Construction

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.

001-103 Turf Mgmt & Irrigation Systems

Examines how to effectively establish and maintain professional lawn/turf. Covers identification and selection of turf grasses, establishment and maintenance practices. The course will include nutrient needs, integrated pest management, diagnosing problems, corrective strategies, irrigation principles and irrigation implementation.

001-104 Greenhouse Management

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.

001-111 Sustainable Land Use Mgmt

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.

Notes

Landscape, Plant & Turf Management - Horticulture

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

20-800-2

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

- COMPASS® pre-entry assessments.
- Scores listed below apply to 200 level courses in this program:
 - 80 on Reading
 - 66 on Algebra
 - 69 on Writing

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)



First Term	Credits
801-219 English Composition I	3
804-224 College Algebra	4
804-228 Plane Trigonometry	3
806-201 Principles of Biology	4
Choose 1 course(s) from the following	
803-227 American Government	3
809-251 General Psychology	3
809-271 Introductory Sociology	3
809-291 Princ of Econ-Microeconomics	3
Total Credits.....	17
Second Term	Credits
804-236 Calculus & Analytic Geometry 1	5
810-201 Fundamentals of Speech.....	3
Choose 1 course(s) from the following:	
806-245 Principles of Gen Chemistry 1	5
806-276 Principles General Physics 1	5
Choose 1 course(s) from the following:	
803-227 American Government	3
809-251 General Psychology	3
809-271 Introductory Sociology	3
809-291 Princ of Econ-Microeconomics	3
Total Credits.....	16
Third Term	Credits
801-200 Humanities	9
801-223 English Composition 2	3
Choose 4 credits from the following:	
804-230 Statistics	4
804-240 Calculus & Analytic Geometry 2	5
806-207 Anatomy & Physiology 1	4
806-249 Principles of Gen Chemistry 2	5
806-280 Principles General Physics 2	4
Total Credits.....	16
Fourth Term	Credits
801-299 Electives for Univ Transfer	6
802-200 Foreign Language	4
809-200 Diversity/Ethnic Studies	3
857-200 Health and Wellness	2
Total Credits.....	15

Minimum Program Credits Required - 64

For a complete listing of course descriptions see back of catalog.

801-219 English Composition 1

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 18) or 831-103 Intro to College Writing or (Bachelor's Science Y or Bachelor's Arts Y).

806-245 Principles of Gen Chemistry 1

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): 836-133 Prep for Basic Chemistry or 856-771 Basic Chemistry Calculations or (Bachelor's Science Y or Bachelor's Arts Y) or (COMPASS-Reading 80 or ACT Reading preentry assmt 18) and (COMPASS-Algebra 40 or ACT Mathematics preentry assmt 18) or ACT Science Reasoning assmt 18.

809-271 Introductory Sociology

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 18) or (Bachelor's Science Y or Bachelor's Arts Y) or (838-104 Intro to College Reading or 808-110 College Reading).

Notes

Liberal Arts - Associate of Science

Machine Tooling Technics

Technical Diploma
Two Years

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

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

2010-11 Employment Facts

Average Hourly Wage \$17.47
Average Monthly Income \$3255.00

Employers

Accu-Tech Plastics, Inc.; Eau Claire, WI
3M; Menomonie, WI
Advanced Laser Machining; Chippewa Falls, WI
Allied Dies; Chippewa Falls, WI
Coulson Precision Tooling; Chippewa Falls, WI
EDI; Chippewa Falls, WI
Extrusion Dies Industries; Chippewa Falls, WI
Five Star Plastics; Eau Claire, WI
Graco; Rogers, MN
McDonough Mfg Co.; Eau Claire, WI
OEM Fabricators; Woodville & Neillsville, WI
Premiere Dies Corporation; Chippewa Falls, WI
Pro-cise Machine and Tool; Eau Claire, WI
Prototype Solutions Group; Menomonie, WI
Riverside Machine; Chippewa Falls, WI
Schmit Prototypes ; Menomonie, WI
W.S. Darley; Chippewa Falls, WI
Wisconsin Metal Fabrication; Chippewa Falls, WI



First Term		Credits
420-300	Machine Shop Theory	1
420-321	Manual Turning Processes	5
420-322	Manual Milling Processes	5
420-373	Precision Measurement	1
421-385	Machine Trades Blueprint Rdg	2
804-361	Math 10	2
Total Credits		16
Second Term		Credits
420-325	Basic CNC Mill Programming	5
420-326	Adv CNC Mill & Grinding Proc	5
420-341	Materials for Machinists	2
420-380	2-D CAM	2
804-362	Math 20	2
Total Credits		16
Third Term		Credits
420-330	Basic CNC Lathe Programming	5
420-331	Advanced CNC Turning Processes	5
420-353	CAM for CNC Lathe	2
420-367	3-D CAM	3
Choose 1 credits from the following:		
420-379	Job Skills for Manufacturing	1
801-351	Applied Communication	2
Total Credits		16
Fourth Term		Credits
420-351	Advanced CAD/CAM	3
420-352	Advanced Technologies in Mfg	5
420-355	Competitive Machining Techniqs	5
420-382	Swiss 1	3
Total Credits		16

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-660-2) CAD Operator, 17 credits

For a complete listing of course descriptions see back of catalog.

420-300 Machine Shop Theory

Broad theoretical background in machine shop practices which includes milling, turning, grinding, and drilling.

420-321 Manual Turning Processes

This course is intended to develop the fundamental skills 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. 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

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.

420-326 Adv CNC Mill & Grinding Proc

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.

Notes

Manufacturing Engineering Technologist

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-623-8

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 transcribed 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 transcribed 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

2010-11 Employment Facts

This is a new program.

Graduate employment information is not available.

Employers

This is a new program.

Follow-up information is not yet available.



First Term		Credits
606-160	Mfg Materials & Processes	3
606-185	Blueprint Reading	1
801-195	Written Communication	3
Choose 5 credits from the following:		
804-113	College Technical Math 1A	3
804-114	College Technical Math 1B	2
804-115	College Technical Math 1	5
Choose 4 credits from the following:		
806-134	General Chemistry	4
806-245	Principles of Gen Chemistry 1	5
Total Credits		16
Second Term		Credits
103-102	Microsoft Office Suite	2
606-161	CAD, Basic	3
623-130	Lean Fundamentals.....	2
623-132	Workplace Safety	2
804-116	College Technical Math 2	4
809-196	Intro to Sociology	3
Total Credits		16
Third Term		Credits
606-102	Principles of Design.....	2
606-104	Geometric Dimen & Tolerancing.....	3
606-130	Solid Modeling I.....	3
623-154	Engineering Economy	3
801-196	Oral/Interpersonal Comm	3
804-189	Introductory Statistics	3
Total Credits		17
Fourth Term		Credits
606-131	Solid Modeling II.....	3
625-110	Mfg & Quality Assurance	3
806-154	General Physics 1	4
809-198	Intro to Psychology	3
Choose 1 course(s) from the following:		
102-112	Principles of Management	3
102-188	Project Management	3
623-114	Industry Practicum	3
Total Credits		16

Minimum Program Credits Required - 65

For a complete listing of course descriptions see back of catalog.

606-130 Solid Modeling I

This course introduces the student to the concepts and commands required to develop 3-D solid models using Solid Works 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

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.

606-185 Blueprint Reading

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.

623-132 Workplace Safety

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

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.

Notes

Manufacturing Eng Technologist

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

10-104-3

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

2010-11 Employment Facts

Average Hourly Wage \$16.02

Average Monthly Income \$3045.01

Employers

- Sacred Heart Hospital; Eau Claire, WI
- Fastenal; Eau Claire, WI
- Chippewa Valley Technical College; Eau Claire, WI
- Finish Line Shoes; Eau Claire, WI
- Target Corporation; Minneapolis, MN
- Visit Eau Claire; Eau Claire, WI
- West Business Services (American Express); Eau Claire, WI
- Macys Inc; Eau Claire, WI
- Aflac; Eau Claire, WI
- Fox Television (Grant Communications); Eau Claire, WI
- Eau Claire Indoor Sports Center; Eau Claire, WI

Entrepreneurs:

- Chippewa Valley Airport Service; Eau Claire, WI
- Digital Edge Marketing; Eau Claire, WI
- Sandy's Clothing and Gifts; Eau Claire, WI
- Taylor Made Cleaning; Eau Claire, WI
- Zoob Mobile Marketing; Eau Claire, WI

First Term	Credits
102-131 Introduction to Business	3
103-102 Microsoft Office Suite	2
104-102 Marketing Principles	3
196-193 Human Resources, Intro to	3
801-195 Written Communication	3
809-198 Intro to Psychology	3
Total Credits.....	17

Second Term	Credits
102-112 Principles of Management	3
104-104 Professional Selling	3
104-125 Promotion Principles	3
801-196 Oral/Interpersonal Comm	3
Choose 3 credits from the following:	
101-105 Accounting, Intro to	3
101-111 Accounting I.....	4
Total Credits.....	15

Third Term	Credits
104-105 Marketing Research	3
104-152 Social Media Marketing	2
104-166 Enterprise Marketing & Mgmt	4
801-198 Speech	3
809-195 Economics	3
Choose 1 course(s) from the following:	
104-108 Retail Management	3
104-140 Business to Business Selling	3
Total Credits.....	18

Fourth Term	Credits
104-160 Entertainment/Sports/Event Mkt	3
104-169 Marketing Internship	1
104-182 Prof Development for Marketing	2
104-183 Marketing Management	3
Choose 1 course(s) from the following:	
809-166 Intro to Ethics: Theory & App	3
809-172 Race Ethnic & Diversity	3
809-196 Intro to Sociology	3
Choose 1 course(s) from the following:	
804-123 Math w Business Apps	3
804-189 Introductory Statistics	3
Choose 1 course(s) from the following:	
104-111 Consumer Behavior	3
104-126 Promotional Design	3
Total Credits.....	18

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

Marketing Management students will gain hands-on experience as they open and operate a small business on campus during their third semester. This experience will allow students to apply the functions of marketing and management in a business setting. Students will gain the real-life experience that employers are looking for.

Note: Students enrolled in the business management, human resources, or marketing management programs will register for the same courses in the first semester of their programs. Students will have the option to complete more than one program, graduating with double or triple majors.

For a complete listing of course descriptions see back of catalog.

104-160 Entertainment/Sports/Event Mkt

This course will help you develop an 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 publicity and brand awareness. Prerequisite(s): 104-102 Marketing Principles and 104-125 Promotion Principles.

104-125 Promotion Principles

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

104-152 Social Media Marketing

In this course, we will explore the latest strategies for monitoring and engaging consumers in social media from a marketing perspective. You will learn how to connect with consumers and analyze what they're saying about companies, brands, products and competitors. We'll also study how the principles of word-of-mouth, viral marketing, and buzz marketing can be used to leverage the network and conversation power of social media. The course also provides a hands-on approach to employ web building, audio editing, video editing, and an introduction to promotional design. For the final project, you will create a social media marketing plan for a selected product or service. Prerequisite(s): 104-102 Marketing Principles and 104-125 Promotion Principles.

Notes

Offered in Eau Claire • August and January entry dates

31-509-1

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), 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

2010-11 Employment Facts

Average Hourly Wage \$12.81

Average Monthly Income \$2084.48

Employers

Baldwin Area Medical Clinic; Baldwin, WI
Chrome Clinic; Black River Falls, WI
Gemini Cares; Eau Claire, WI
Health East Maplewood Clinic; Maplewood, MN
Hudson Physicians; Hudson, WI
Kromrey Chiropractic; Cadott, WI
Marshfield Clinic; Rice Lake, WI
Marshfield Clinic; Eau Claire, WI
Marshfield Clinic; Ladysmith, WI
Our House Assisted Living; Chippewa Falls, WI
Red Cedar Medical Center; Menomonie, WI
Ridgeview Chanhassen Clinic; Chanhassen, MN
River Falls Clinic; River Falls, WI
Self-Employed; Independent Contractor
Stillwater Clinic; Stillwater, MN
Turtle Lake Clinic; Turtle Lake, WI
Western Wisconsin Urology; Eau Claire, WI

First Term	Credits
501-101 Medical Terminology.....	3
501-120 Medical Office Computing	2
509-301 Medical Asst Admin Procedures.....	2
509-302 Human Body in Health & Disease	3
509-303 Medical Asst Lab Procedures 1.....	2
509-304 Medical Asst Clin Procedures 1	4
509-309 Medical Law, Ethics & Profess	2
Total Credits.....	18

Second Term	Credits
501-308 Pharmacology for Allied Health.....	2
509-305 Med Asst Lab Procedures 2.....	2
509-306 Med Asst Clin Procedures 2.....	3
509-307 Med Office Insurance & Finance	2
509-310 Medical Assistant Practicum.....	3
801-195 Written Communications	3
Total Credits.....	15

Minimum Program Credits Required - 33

For a complete listing of course descriptions see back of catalog.

509-303 Medical Asst Lab Procedures 1

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

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.

509-307 Med Office Insurance & Finance

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): 103-102 Microsoft Office Suite (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.

Notes

Medical Assistant

Medical Laboratory Technician

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-513-1

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 internship which might require you to relocate. Clinical internship 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), 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 mathematic skills
- Critical thinking skills
- Computer literacy

Career Opportunities

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

2010-11 Employment Facts

Average Hourly Wage \$17.30

Average Monthly Income \$2699.03

Employers

Bloomer Medical Center; Bloomer, WI
Franciscan Skemp - LaCrescent Clinic; LaCrescent, MN
Franciscan Skemp Hospital- Arcadia; Arcadia, WI
Hudson Physicians Clinic; Hudson, WI
Lakeview Medical Center; Rice Lake, WI
Mayo Health; Chippewa Falls, Eau Claire, Barron, Ladysmith, WI
Marshfield Clinic; Ladysmith, WI
Rusk County Memorial Hospital; Ladysmith, WI
Western Wisconsin Urology; Eau Claire, WI



First Term		Credits
513-110	Basic Lab Skills	1
513-111	Phlebotomy	2
513-113	QA Laboratory Math	1
513-115	Basic Immunology Concepts.....	2
801-195	Written Communication	3
806-177	Gen Anatomy & Physiology.....	4
806-186	Intro to Biochemistry.....	4
Total Credits.....		17
Second Term		Credits
513-109	Blood Bank	4
513-114	Urinalysis	2
513-120	Basic Hematology	3
513-121	Coagulation.....	1
806-197	Microbiology.....	4
809-198	Intro to Psychology.....	3
Total Credits.....		17
Third Term		Credits
Choose 1 course(s) from the following:		
801-196	Oral/Interpersonal Comm	3
801-197	Technical Reporting.....	3
801-198	Speech	3
Choose 1 course(s) from the following:		
809-195	Economics.....	3
809-196	Intro to Sociology	3
809-197	Contemporary American Society.....	3
Total Credits.....		6
Fourth Term		Credits
513-131	Clinical Chemistry 1.....	3
513-132	Clinical Chemistry 2.....	2
513-133	Clinical Microbiology.....	4
513-140	Adv Topics in Microbiology	2
513-145	MLT Seminar.....	3
Total Credits.....		14
Fifth Term		Credits
513-130	Advanced Hematology	2
513-144	Clinical Experience 3	4
513-151	Clinical Experience 1	3
513-152	Clinical Experience 2	4
Total Credits.....		13

Minimum Program Credits Required - 67

For a complete listing of course descriptions see back of catalog.

513-151 Clinical Experience 1

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 Intro to Clinical Chem Diagnos and 513-132 Adv Clinical Chem Diagnostics and 513-145 CLT 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 Clinical Laboratory Technician.

513-133 Clinical Microbiology

This course presents the clinical importance of infectious diseases with emphasis upon the appropriate collection, handling, and identification of clinically relevant bacteria. Disease states, modes of transmission and methods of prevention and control, including antibiotic susceptibility testing, will also be discussed. Prerequisite(s): 806-197 Microbiology. Co-requisite(s): 513-140 Adv Topics in Microbiology. Restricted to students admitted to the following program(s): 10-513-1 Clinical Laboratory Technician.

513-140 Adv Topics in Microbiology

This course provides an overview of acid fast organisms, fungi, parasites, and anaerobic bacteria. The organisms, their pathophysiology, epidemiology, the diseases and conditions that they cause, laboratory methods of handling, culturing, and identification will be discussed. Prerequisite(s): 806-197 Microbiology. Co-requisite(s): 513-133 Clinical Microbiology.

Notes

Medical Laboratory Technician

Motorcycle, Marine & Outdoor Power Products Technician

Technical Diploma
One Year

Offered in Eau Claire • August entry date

31-461-2

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

2010-11 Employment Facts

Average Hourly Wage \$12.26

Average Monthly Income \$2249.17

Employers

Interstate Auto; Eau Claire, WI
MDMA Equipment (John Deere); Durand, WI
Mega Lube and Oil; Eau Claire, WI
Menards; Eau Claire, WI
Northwest Enterprises; Eau Claire, WI
Precision Innovation; Germantown, WI
TCR Power Products; Neillsville, WI
Team Winnebago; Oshkosh, WI
Universal Marine and RV; Rochester, MN
Walmart Tire & Lube; Menomonie, WI
X Treme Sports; Chippewa Falls, WI



First Term	Credits
442-314A Related Welding, Marine.....	2
461-310 Basic Engines/Systems, Intro to.....	5
461-312 Engine Theory 1	2
804-360C Math Tech Trades-Auto & Sm Eng	2
Choose 1 course(s) from the following:	
461-330 Marine Outboards.....	5
461-340 Marine Inboards.....	5
Total Credits.....	16

Second Term	Credits
461-313 Engine Theory 2	2
801-351 Applied Communication.....	2
809-351 Occupational Relations	2
Choose 1 course(s) from the following:	
461-330 Marine Outboards.....	5
461-340 Marine Inboards.....	5
Choose 1 course(s) from the following:	
461-320 Snowmobiles & ATVs	5
461-360 Motorcycles.....	5
Total Credits.....	16

Third Term	Credits
461-314 Engine Theory 3	1
Choose 1 course(s) from the following:	
461-320 Snowmobiles & ATVs	5
461-360 Motorcycles.....	5
Total Credits.....	6

Minimum Program Credits Required - 38

For a complete listing of course descriptions see back of catalog.

461-310 Basic Engines/Systems, Intro to

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 & Ou.

461-312 Engine Theory 1

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

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

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).

Notes

**Motorcycle, Marine & Outdoor
Power Products Technician**

Offered in Eau Claire • August entry date

10-635-1

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 fab-

rication 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

2010-11 Employment Facts

This is a new program.

Graduate employment information is not available.

Employers

This is a new program.

Follow-up information is not yet available.



First Term **Credits**

606-185	Blueprint Reading	1
623-108	Intro to Mfg Lab Science	3
801-195	Written Communication	3
Choose 5 credits from the following:		
804-113	College Technical Math 1A	3
804-114	College Technical Math 1B	2
804-115	College Technical Math 1	5
Choose 4 credits from the following:		
806-134	General Chemistry	4
806-245	Principles of Gen Chemistry 1	5
	Total Credits	16

Second Term **Credits**

103-102	Microsoft Office Suite	2
606-161	CAD, Basic	3
623-132	Workplace Safety	2
635-118	Intro to Biotechnology	3
804-116	College Technical Math 2	4
809-196	Intro to Sociology	3
	Total Credits	17

Third Term **Credits**

623-116	Lab Electronics	3
635-103	Lab Science Instrumentation	2
635-105	Nanomaterials	3
635-108	Micro and Nano Fabrication	2
801-196	Oral/Interpersonal Comm	3
804-189	Introductory Statistics	3
	Total Credits	16

Fourth Term **Credits**

625-110	Mfg & Quality Assurance	3
635-119	MEMS and Microfluidics	3
635-150	Mfg Processes and Lab Science	2
806-154	General Physics 1	4
809-198	Intro to Psychology	3
Choose 1 course(s) from the following:		
102-112	Principles of Management	3
196-188	Project Management	3
623-114	Industry Practicum	3
	Total Credits	18

Minimum Program Credits Required - 67

For a complete listing of course descriptions see back of catalog.

635-100 Fundamentals of Nanoscience

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.

635-105 Nanomaterials

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): 635-101 Intro to Microfabrication and 635-103 Lab Science Instrumentation. Co-requisite(s): 635-117 Nanoscience Manufacturing & QA.

635-108 Micro and Nano Fabrication

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.
Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-112 Micro & Nano Fabrication Lab.

Notes

Nano Engineering Technology

Nursing - Associate Degree

Associate Degree
Two Years

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

10-543-1

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 in No. 4 in Phase I.
- 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 on-line 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

2010-11 Employment Facts

Average Hourly Wage \$25.15

Average Monthly Income \$3973.89

Employers

Adoray Home, Health, and Hospice; Baldwin, WI
Amery Regional Medical Center; Amery, WI
Baldwin Area Medical Center; Baldwin, WI
Barron Care and Rehab; Barron, WI
Black River Memorial Hospital; Black River Falls, WI
Chippewa Manor Nursing and Rehab.; Chippewa Falls, WI
Clark County Health Care Center; Owen, WI
Hudson Hospital; Hudson, WI
Kinnic Long Term Care; River Falls, WI
Lakeview Medical Center; Rice Lake, WI
Mayo Health; Eau Claire, WI
Marshfield Clinic Urgent Care; Eau Claire, WI
Oakbrook Health and Rehab; Thorp, WI
Sacred Heart Hospital; Eau Claire, WI

First Term	Credits
543-101 Nursing Fundamentals.....	2
543-102 Nursing Skills	3
543-103 Nursing Pharmacology	2
543-104 Nsg: Intro Clinical Practice	2
801-195 Written Communication	3
806-177 Gen Anatomy & Physiology	4
809-188 Developmental Psychology.....	3
Total Credits	19
Second Term	Credits
543-105 Nursing Health Alterations.....	3
543-106 Nursing Health Promotion.....	3
543-107 Nsg: Clin Care Across Lifespan	2
543-108 Nsg: Intro Clinical Care Mgt.....	2
806-179 Adv Anatomy & Physiology.....	4
Choose 1 course(s) from the following:	
801-196 Oral/Interpersonal Comm	3
801-198 Speech	3
Total Credits	17
Third Term	Credits
543-109 Nsg: Complex Health Alterat 1	3
543-110 Nsg: Mental Health Comm Con	2
543-111 Nsg: Intermed Clin Practice	3
543-112 Nursing Advanced Skills.....	1
806-197 Microbiology.....	4
Elective	3
Choose 1 course(s) from the following:	
809-198 Intro to Psychology.....	3
809-199 Psychology of Human Relations.....	3
809-251 General Psychology	3
Total Credits	19
Fourth Term	Credits
543-113 Nsg: Complex Health Alterat 2	3
543-114 Nsg: Mgt & Profess Concepts	2
543-115 Nsg: Adv Clinical Practice	3
543-116 Nursing Clinical Transition	2
Elective	2
Choose 1 course(s) from the following:	
809-172 Race Ethnic & Diversity	3
809-196 Intro to Sociology	3
809-197 Contemporary Amer Society	3
Total Credits	15

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 a complete listing of course descriptions see back of catalog.

543-101 Nursing Fundamentals

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 804-140 Basic Algebra. Restricted to students admitted to the following program(s): 10-543-1 Nursing-Assoc Degree, 31-543-1 Practical Nursing.

543-102 Nursing Skills

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-Assoc Degree, 31-543-1 Practical Nursing.

Notes

Nursing - Associate Degree

Nursing Assistant

Technical Diploma
Less Than One Year

Offered at various locations • August, January and June entry dates

30-543-1

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

2010-11 Employment Facts

Average Hourly Wage \$11.25

Average Monthly Income \$1800.00

Employers

American Lutheran Homes; (several locations in Wisconsin)
Chippewa Manor Nursing & Rehabilitation; Chippewa Falls, WI
Clairemont Nursing & Rehabilitation; Eau Claire, WI
Oakwood Villa; Altoona, WI
Dove Healthcare Nursing & Rehabilitation; Eau Claire, WI
Augusta Area Home; Augusta, WI
Sylverson Lutheran Home; Eau Claire, WI



First Term	Credits
543-300 Nursing Assistant	3
Total Credits	3

Minimum Program Credits Required - 3

For a complete listing of course descriptions see back of catalog.

543-300 Nursing Assistant

This 120-hour course is a combination lecture, lab in a classroom and clinical practice conducted in long-term care facilities. It covers 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.

Notes

Nursing Assistant

Offered in Eau Claire • August entry date

10-110-1

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



2010-11 Employment Facts

Average Hourly Wage \$13.02

Average Monthly Income \$2404.08

Employers

Access Security; Chippewa Falls, WI
American Family Insurance; Eau Claire, WI
Anastasia & Associates; Stillwater, MN
Certified Recovery; Eau Claire, WI
Dady and Garner; Minneapolis, MN
Dan Freund Law Office; Eau Claire, WI
Dunn County Circuit Court; Menomonie, WI
Eau Claire County Circuit Court; Eau Claire, WI
Edward Jones; Chippewa Falls, WI
Herrick & Hart, S.C.; Eau Claire, WI
Heywood, Cari and Anderson; Hudson, WI
Ho Chunk Nation Department of Justice; Black River Falls, WI
Joe Goetz Paralegal Service; Eau Claire, WI
Laman and Swenson; Eau Claire, WI
Menards; Eau Claire, WI
Minnesota State Legislature – Revisor's Office; St. Paul, MN
Red Cedar Medical Center-Mayo Health Systems, Legal Department;
Menomonie, WI
Royal Credit Union; Eau Claire, WI
Spohrer & Dodd; Jacksonville, FL
St. Croix County Circuit Court; River Falls, WI
Thad Gagner Law Office; Eau Claire, WI
Wiley Law Offices; Eau Claire, WI

First Term		Credits
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:		
801-136	English Composition 1	3
801-219	English Composition 1	3
Choose 1 course(s) from the following:		
809-122	Intro to Amer Government	3
809-197	Contemporary Amer Society	3
Total Credits.....		15
Second Term		Credits
106-141	Computer Applications-Legal	3
110-103	Civil Litigation II	3
110-105	Legal Writing	3
110-106	Family Law	3
809-195	Economics	3
809-198	Intro to Psychology	3
Total Credits.....		18
Third Term		Credits
110-114	Administration of Estates	3
110-168	Criminal Law-Paralegal	3
Choose 1 course(s) from the following:		
110-147	Immigration Law	3
110-160	Employment Law	3
110-180	Elder Law	3
Choose 1 course(s) from the following:		
110-110	Real Estate Law	3
110-115	Administrative Law	3
Choose 1 course(s) from the following:		
804-189	Introductory Statistics	3
806-189	Basic Anatomy.....	3
Choose 1 course(s) from the following:		
809-128	Marriage & Family	3
809-159	Abnormal Psychology.....	3
Total Credits.....		18
Fourth Term		Credits
101-105	Accounting, Intro to	3
110-107	Legal Aspects of Bus Organiz.....	3
Choose 1 course(s) from the following:		
110-122	Debtor and Creditor Relations	3
110-170	Contract Law	3
Choose 1 course(s) from the following:		
110-142	Paralegal Internship	3
110-143	Paralegal Field Study	3
Choose 1 course(s) from the following:		
801-196	Oral/Interpersonal Comm	3
801-198	Speech	3
Total Credits.....		15

Minimum Program Credits Required - 66

Short-Term Training Certificate(s)

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

For a complete listing of course descriptions see back of catalog.

110-101 Paralegal & Legal Ethic, Intro

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): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.

110-168 Criminal Law-Paralegal

Analysis of federal and state laws governing employment relationships. Prerequisite(s): 110-103 Civil Litigation II and (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.

110-147 Immigration Law

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 801-219 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

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 1 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.

Notes

Paramedic Technician

Associate Degree
Two Years

Offered in Eau Claire • January entry date

10-531-1

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).

Helpful Background

- Chemistry
- Human biology
- Advanced mathematics



Career Opportunities

- Critical Care Paramedic
- Paramedic

2010-11 Employment Facts

Average Hourly Wage \$14.00

Average Monthly Income \$3033.10

Employers

Allina Medical Transportation; St. Paul, MN
Chippewa Fire Department; Chippewa Falls, WI
Eau Claire Fire Department; Eau Claire, WI
Gold Cross Ambulance; Duluth, MN
Gold Cross Ambulance; St. Cloud, MN
Gold Cross Ambulance; Eau Claire, WI
Green Bay Fire Department; Green Bay, WI
HealthEast Medical Transportation; St. Paul, MN
Menomonie Fire Department; Menomonie, WI
Orange Cross Ambulance; Sheboygan, WI
Oshkosh Fire Department; Oshkosh, WI
Red Wing Fire Department; Red Wing, MN
Tri-State Ambulance; La Crosse, WI
North Memorial Medical Transport; Robbinsdale, MN
Lakeview Medical Center; Rice Lake, WI
Stevens Point Fire Department; Stevens Point, WI
Marshfield Fire Department; Marshfield, WI

First Term		Credits
531-180	Intro to Adv Pre-hospital Care	4
801-195	Written Communication	3
801-196	Oral/Interpersonal Comm	3
806-177	Gen Anatomy & Physiology	4
809-198	Intro to Psychology	3
Total Credits.....		17
Second Term		Credits
531-911	EMS Fundamentals	2
531-912	Paramedic Medical Principles	4
806-179	Adv Anatomy & Physiology	4
Total Credits.....		10
Third Term		Credits
531-913	Patient Assessment Principles	3
531-914	Pre-hospital Pharmacology	3
531-915	Paramedic Respiratory Mgmt	2
531-916	Paramedic Cardiology	4
531-917	Paramedic Clinical/Field 2	3
531-918	Advanced Emergency Resusci	1
809-188	Developmental Psychology	3
Total Credits.....		19
Fourth Term		Credits
531-919	Paramedic Medical Emergencies	4
531-920	Paramedic Trauma	3
531-921	Special Patient Populations	3
806-197	Microbiology	4
809-172	Race Ethnic & Diversity	3
Total Credits.....		17
Fifth Term		Credits
531-922	EMS Operations	1
531-923	Paramedic Capstone.....	1
531-924	Paramedic Clinical/Field 2	4
Total Credits.....		6

Minimum Program Credits Required - 69

Short-Term Training Certificate(s)

-(TC-531-1) Emergency Medical Technician, 3 Credits

For a complete listing of course descriptions see back of catalog.

531-911 EMS Fundamentals

This course provides the paramedic student with comprehensive knowledge of EMS systems, safety, well-being, legal issues, and ethical issues, with the intended outcome of improving the health of EMS personnel, patients, and the community. The students will obtain fundamental knowledge of public health principles and epidemiology as related to public health emergencies, health promotion, and illness/injury prevention. Introducing students to comprehensive anatomical and medical terminology and abbreviations will foster the development of effective written and oral communications with colleagues and other health care professionals.

531-914 Pre-hospital Pharmacology

This course provides the paramedic student with the comprehensive knowledge of pharmacology required to formulate and administer a pharmacological treatment plan intended to mitigate emergencies and improve the overall health of the patient.

531-915 Paramedic Respiratory Management

This course teaches the paramedic student to integrate complex knowledge of anatomy, physiology, and pathophysiology into the assessment to develop and implement a treatment plan with the goal of assuring a patient airway, adequate mechanical ventilation, and respiration for patients of all ages. Specific knowledge pertaining to the respiratory system is also provided to ensure the student is prepared to formulate a field impression and implement a comprehensive treatment plan for a patient with a respiratory complaint.

531-916 Paramedic Cardiology 1

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.

Notes

Paramedic Technician

Offered in Eau Claire • August entry date

31-536-1

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.

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 post-secondary 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-



- 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!

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 Pharmacy Technician program. The Admissions Office will notify you at the appropriate time.
- 18 years of age; high school diploma/GED

Helpful Background

- Strong interpersonal and communication skills
- Ability to work as part of a team
- High school or college biology

Applicants who have been convicted of a drug-related felony will not be admitted to the program. Applicants with other convictions of any kind, including misdemeanors or felonies, may need special approval from a clinical site to be admitted to the program.

You may need to consent to drug testing and release of that information to a clinical site before you will be allowed to begin the clinical experience portion of the program. A positive drug test will exclude you from clinical placement which may result in dismissal from the Pharmacy Technician program.

Career Opportunities

- Pharmacy Technician

2010-11 Employment Facts

Average Hourly Wage \$10.79

Average Monthly Income \$1729.73

Employers

Mayo Health; Eau Claire, WI

Red Cedar Medical Center; Menomonie, WI

Sacred Heart Hospital; Eau Claire, WI

Walgreens Pharmacy; Chippewa Falls, Rice Lake, WI

First Term		Credits
501-101	Medical Terminology.....	3
536-110	Pharmaceutical Calculations	3
536-112	Pharmacy Business Apps	4
536-115	Pharmacy Law	2
536-120	Reading Prescriptions, Fund of	2
536-134	Pharmacy Benefits-Managing	1
536-138	Pharmacy Community Clinical.....	2
Total Credits		17

Second Term		Credits
536-122	Pharmacology for Pharmacy Tech	3
536-124	Pharmacy Drug Dist. Systems.....	1
536-126	Pharmacy Parenteral Admixtures	3
536-140	Pharmacy Hospital Clinical.....	2
536-141	Hospital Clinical Lab	2
801-196	Oral/Interpersonal Comm	3
809-199	Psychology of Human Relations.....	3
Total Credits		17

Minimum Program Credits Required - 34

For a complete listing of course descriptions see back of catalog.

536-120 Reading Prescriptions, Fund of

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.

536-115 Pharmacy Law

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 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.

Notes

Pharmacy Technician

Physical Therapist Assistant

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-524-1

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; website: www.captionline.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
- 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 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.



Helpful Background

- Strong interpersonal and communication skills
- Entry-level computer skills
- Patient care skills

Career Opportunities

Physical Therapist Assistant

2010-11 Employment Facts

Average Hourly Wage \$19.01

Average Monthly Income \$3171.97

Employers

Eau Claire Therapy and Fitness; Eau Claire, WI
TruRehab of Eau Claire; Eau Claire, WI
Lakeview Medical Center; Bloomer, WI
Midwest Physical Therapy; Bloomer, WI
Oakwood Villa; Eau Claire, WI
PeopleFirst Rehabilitation; (multiple sites in Wisconsin)
Dove Healthcare and Rehabilitation; Eau Claire, WI
Memorial Medical Center; Neillsville, WI
Sacred Heart Hospital - Physical Therapy Department; Eau Claire, WI

First Term		Credits
524-138	PTA Kinesiology 1.....	3
524-139	PTA Patient Interventions	4
524-140	PTA Professional Issues 1	2
801-195	Written Communication	3
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		16
Second Term		Credits
524-141	PTA Kinesiology 2.....	4
524-142	PTA Therapeutic Exercise.....	3
524-143	PTA Therapeutic Modalities	4
809-198	Intro to Psychology.....	3
Choose 1 course(s) from the following:		
801-196	Oral/Interpersonal Comm	3
801-198	Speech.....	3
Total Credits.....		17
Third Term		Credits
809-188	Developmental Psychology.....	3
809-196	Intro to Sociology	3
Total Credits.....		6
Fourth Term		Credits
524-144	PTA Princ of Neuro Rehab.....	4
524-145	PTA Princ of Musculo Rehab.....	4
524-146	PTA Cardio & Integ Mgmt.....	3
524-147	PTA Clinical Practice 1	2
Choose 1 course(s) from the following:		
809-172	Race Ethnic & Diversity.....	3
809-174	Social Problems	3
Total Credits.....		16
Fifth Term		Credits
524-148	PTA Clinical Practice 2.....	3
524-149	PTA Rehab Across the Lifespan.....	2
524-150	PTA Professional Issues 2	2
524-151	PTA Clinical Practice 3	5
	Elective.....	3
Total Credits.....		15

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

524-138 PTA Kinesiology 1

Introduces basic principles of musculoskeletal anatomy, kinematics, and clinical assessment. Students locate and identify muscles, joints, and other landmarks of the lower quadrant in addition to assessing range of motion and strength. Prerequisite(s): 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

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

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.

524-142 PTA Therapeutic Exercise

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

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.

Notes

Physical Therapist Assistant

Offered in Eau Claire • August entry date

10-526-1

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](mailto: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
- 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 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.
- 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 or through a program counselor.



Helpful Background

- Advanced algebra and geometry
- Advanced science, physics, chemistry
- Anatomy
- Computer skills
- Interpersonal communications

Pregnancy during sequence may delay graduation date.

This program requires a clinical experience, and facilities are located throughout western Wisconsin. An eight-week summer session is required the first year in this program. An 8-week internship is required the second summer of this program. Relocation may be necessary for the internship period.

Career Opportunities

- Radiologic Technologist (Radiographer)
- Mammography Technologist
- Magnetic Resonance Technologist
- Radiography Information System Technologist

2010-11 Employment Facts

Average Hourly Wage \$22.08

Average Monthly Income \$3687.22

Employers

Abbot Northwestern; Minneapolis, MN

Aspirus Hospital; Wausau, WI

Cumberland Memorial Hospital; Cumberland, WI

Gillette Children's Services Center; St. Paul, MN

Gundersen Lutheran; La Crosse, WI

Hudson Hospital; Hudson, WI

Lakeview Medical Center; Rice Lake, WI

Mayo Health; Eau Claire, WI

Sacred Heart Hospital; Eau Claire, WI

UW Hospital; Madison, WI

Graduates have the best employment opportunities if they are willing to relocate.

First Term		Credits
526-149	Radiographic Procedures 1.....	5
526-158	Introduction to Radiography	3
526-159	Radiographic Imaging 1	3
526-168	Radiography Clinical 1.....	2
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		17
Second Term		Credits
526-170	Radiographic Imaging 2	3
526-191	Radiographic Procedures 2.....	5
526-192	Radiographic Clinical 2.....	3
804-107	College Mathematics	3
Choose 1 course(s) from the following:		
809-172	Race Ethnic & Diversity.....	3
809-195	Economics.....	3
809-197	Contemporary American Society.....	3
Total Credits.....		17
Third Term		Credits
526-193	Radiographic Clinical 3.....	3
809-198	Intro to Psychology.....	3
Total Credits.....		6
Fourth Term		Credits
526-194	Imaging Equipment Operations	3
526-195	Radiographic Quality Analysis	2
526-196	Modalities	3
526-199	Radiographic Clinical 4.....	3
801-195	Written Communications	3
Total Credits.....		14
Fifth Term		Credits
526-189	Radiographic Pathology	1
526-190	Radiography Clinical 5.....	2
526-197	Radiation Protection & Biology	3
801-196	Oral/Interpersonal Comm	3
809-196	Intro to Sociology	3
Total Credits.....		12
Sixth Term		Credits
526-174	ARRT Certification Seminar.....	2
526-198	Radiography Clinical Practice 6.....	2
Total Credits.....		4

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

526-149 Radiographic Procedures 1

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

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

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

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.

Notes

Radiography

Offered in Eau Claire • August entry date

31-517-1

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

2010-11 Employment Facts

Average Hourly Wage \$13.29

Average Monthly Income \$2112.07

Employers

Davita Health Care; Arden Hills, MN
Gunderson Lutheran; La Crosse, WI
Mayo Health Systems; Eau Claire, WI
Ministry Health Care; Marshfield, WI
Sacred Heart Hospital; Eau Claire, WI

First Term	Credits
501-101 Medical Terminology.....	3
517-320 Intro to Renal Dialysis.....	3
517-321 Principles of Renal Dialysis I.....	4
Choose 1 course(s) from the following:	
809-198 Intro to Psychology.....	3
809-199 Psychology of Human Relations.....	3
Choose 2 credits from the following:	
801-196 Oral/Interpersonal Comm.....	3
801-351 Applied Communication.....	2
Total Credits.....	15
Second Term	Credits
517-302 Renal Failure & Support Ther.....	3
517-304 Hemodialysis Lab Procedures.....	1
517-322 Principles of Renal Dialysis 2.....	3
517-323 Clinical Practicum 1.....	2
517-324 Clinical Practicum 2.....	3
Total Credits.....	12

Minimum Program Credits Required - 27

For a complete listing of course descriptions see back of catalog.

501-101 Medical Terminology

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.

517-302 Renal Failure & Support Ther

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

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

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 Communications (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.

Notes

Renal Dialysis Technician

Offered in Eau Claire and River Falls • August entry date

31-475-3

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 semester 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 semester 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)

2010-11 Employment Facts

Average Hourly Wage \$13.32

Average Monthly Income \$2354.99

Employers

Brunkow Builders Inc.; Eau Claire, WI

Eau Claire Business Interior; Eau Claire, WI

Indianhead Glass; St. Croix, WI

Lindus Construction; Baldwin, WI

Menards DC; Eau Claire, WI

Pete Anderson; River Falls, WI

Premiere Properties; Shakopee, MN

Ross and Associates; River Falls, WI

University of Wisconsin-Eau Claire Carpenter Shop; Eau Claire, WI



First Term		Credits
475-100	Construction Safety	1
475-110	Frmng Mthds/Bldng the Envlpe	4
475-111	Frmng Mthds/Bldng the Envl Lab	5
475-112	Const Basics & Print Reading	2
475-115	Roof Systems and Stairs	3
801-196	Oral/Interpersonal Comm	3
Total Credits		18
Second Term		Credits
475-120	Finish Carpentry Int/Ext	4
475-121	Finish Carpentry Int/Ext Lab	5
475-124	Construction Planning	2
475-125	Est Residential Construction	2
806-112	Prinicples of Sustainability	3
Total Credits		16

Minimum Program Credits Required - 34

For a complete listing of course descriptions see back of catalog.

475-125 Estimating Residential Const.

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 Frming Mthds/Bldng the Envlpe and 475-111 Frmng Mthds/Bldng the Envl Lab and 475-112 Const Basics & Print Reading and 475-115 Roof Systems and Stairs.

475-112 Const Basics & Print Reading

During this course you will start with basic construction laguage, 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 Frming Mthds/Bldng the Envlpe and 475-111 Frmng Mthds/Bldng the Envl Lab and 475-115 Roof Systems and Stairs. Restricted to students admitted to the following program(s): 31-475-3 Residential Construction.

806-112 Priniciples of Sustainability

Prepares the student to develop sustainable literacy, analyze the inter-connections 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.

Notes

Residential Construction

Respiratory Therapist

Associate Degree
Two Years

Offered in Eau Claire • August entry date

10-515-1

The Respiratory Therapist 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 2 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

2010-11 Employment Facts

Average Hourly Wage \$20.78
Average Monthly Income \$3286.85

Employers

Children's Hospital; Minneapolis, MN
Grace Home Respiratory; Altoona, WI
Mayo Health; Eau Claire, WI, Rochester, MN
Midelfort Pharmacy and Home Medical; Eau Claire, WI
Ministry Health Care HYMC; Woodruff, WI
Sacred Heart Hospital; Eau Claire, WI
University of Minnesota Fairview Medical Center; Minneapolis, MN
Foedtert Hospital; Milwaukee, WI
Barron Medical Center; Barron, WI
Wissota Health and Regional Vent Center; Chippewa Falls, WI



First Term		Credits
501-101	Medical Terminology.....	3
515-111	Respiratory Survey.....	3
515-171	Respiratory Therapeutics 1.....	3
801-196	Oral/Interpersonal Comm.....	3
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		16
Second Term		Credits
515-172	Respiratory Therapeutics 2.....	3
515-173	Respiratory Pharmacology.....	3
515-174	Respiratory & Circulatory Phys.....	3
515-176	Respiratory Disease.....	3
809-198	Intro to Psychology.....	3
Total Credits.....		15
Third Term		Credits
515-175	Respiratory Clinical 1.....	2
806-197	Microbiology.....	4
Total Credits.....		6
Fourth Term		Credits
515-112	Respiratory Airway Management.....	2
515-113	Respiratory Life Support.....	3
515-178	Respiratory Clinical 2.....	3
515-179	Respiratory Clinical 3.....	3
515-180	Resp Neo/Peds Care.....	2
809-195	Economics.....	3
Total Credits.....		16
Fifth Term		Credits
515-145	Adv Respiratory Care Topics.....	2
515-181	Resp & Cardio Diagnostics.....	3
515-182	Respiratory Therapy Clin Prac 4.....	3
515-183	Respiratory Therapy Clin Prac 5.....	3
801-195	Written Communication.....	3
809-196	Intro to Sociology.....	3
Total Credits.....		17

Minimum Program Credits Required - 70

For a complete listing of course descriptions see back of catalog.

501-101 Medical Terminology

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.

515-111 Respiratory Survey

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 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 Therapist.

515-171 Respiratory Therapeutics 1

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) or 515-170 Respiratory Therapy 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 Therapist.

515-173 Respiratory Pharmacology

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 (515-170 Respiratory Therapy Survey or 515-111 Respiratory Survey).

Notes

Respiratory Therapist

Offered in Eau Claire • June entry date

31-512-1

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.arcs.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 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 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 a program counselor.

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

2010-11 Employment Facts

Average Hourly Wage \$16.89

Average Monthly Income \$2830.32

Employers

Lakeview Hospital; Rice Lake, WI

Mayo Health Northland; Eau Claire, Barron, WI

Sacred Heart Hospital; Eau Claire, WI

Madison Surgery Center; Madison, WI

Red Cedar Medical Center; Menomonie, WI



First Term		Credits
501-101	Medical Terminology.....	3
806-177	Gen Anatomy & Physiology.....	4
Total Credits.....		7

Second Term		Credits
512-327	ST: Introduction.....	4
512-328	ST: Fundamentals 1.....	4
512-330	ST: Clinical 1.....	3
512-331A	Surgical Procedures A.....	2
801-351	Applied Communication.....	2
Total Credits.....		15

Third Term		Credits
512-329	ST: Fundamentals 2.....	2
512-331B	Surgical Procedures B.....	2
512-332	ST: Clinical 2.....	4
512-334	ST: Clinical 3.....	4
806-301	Basic Microbiology.....	2
Total Credits.....		14

Minimum Program Credits Required - 36

For a complete listing of course descriptions see back of catalog.

501-101 Medical Terminology

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.

512-327 ST: Introduction

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. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

512-328 ST: Fundamentals 1

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. Restricted to students admitted to the following program(s): 31-512-1 Surgical Technologist.

Notes

Surgical Technologist

Offered in Eau Claire • August and January entry dates

10-499-5

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 Program Counselor 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



2010-11 Employment Facts

Average Hourly Wage \$27.59

Average Monthly Income \$4861.11

Employers

Chippewa Valley Technical College; Eau Claire, WI

First Term	Credits
WI Journey Certificate-400 hrs.....	39
Total Credits.....	39

Second Term	Credits
Choose 1 course(s) from the following:	
804-107 College Mathematics	3
804-123 Math w Business Apps	3
804-133 Math & Logic	3
Elective	3
Total Credits.....	6

Third Term	Credits
Choose 1 course(s) from the following:	
809-195 Economics.....	3
809-196 Intro to Sociology	3
809-197 Contemporary American Society.....	3
Choose 1 Course(s) from the following:	
809-198 Intro to Psychology.....	3
809-199 Psychology of Human Relations.....	3
Total Credits.....	6

Fourth Term	Credits
Choose 6 credits from the following:	
801-195 Written Communication	3
801-196 Oral/Interpersonal Comm	3
801-197 Technical Reporting	3
801-198 Speech	3
Choose 3 credits from the following:	
809-195 Economics	3
809-196 Intro to Sociology	3
809-197 Contemporary American Society	3
809-198 Intro to Psychology	3
809-199 Psychology of Human Relations	3
Total Credits.....	9

Minimum Program Credits Required - 60

For a complete listing of course descriptions see back of catalog.

809-195 Economics

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 70 or ACT Reading preentry assmt 16) or 808-110 College Reading or (Assoc Degree preentry assmt Y or Bachelor’s Arts Y or Bachelor’s Science Y).

801-196 Oral/Interpersonal Comm

Focuses upon developing speaking, verbal and nonverbal communication, and listening skills through individual presentations, group activities, and other projects.

801-198 Speech

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.

Notes

Technical Studies - Journeyworker

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, June.

30-458-1

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

2010-11 Employment Facts

Average Hourly Wage \$13.30

Average Monthly Income \$3276.13

Employers

Chippewa Valley Airport Service; Eau Claire, WI
Dedicated Logistics Inc; Oakdale, MN
Eau Claire Transit; Eau Claire, WI
Elite Carriers; Wausau, WI
Farner Bochen; Carrol, IA
Grieb's Trucking; Boyceville, WI
Halvor Lines Inc; Superior, WI
Indianhead Food Service; Eau Claire, WI
Jay Bauer Trucking; Medford, WI
Kelly Iverson; Eleva, WI
Kolpe Building Products; Baldwin, WI
Lake's Gas; Eau Claire, WI
Lentz Farms Inc; Ridgeland, WI
Prince; Marshfield, WI
Roehl Transport; Marshfield, WI
Silent Thunder; Chippewa Falls, WI
Slumberland Furniture; Rice Lake, WI

First Term	Credits
458-341 Truck Driving 1	4
458-342 Truck Driving 2	3
458-343 Truck Driving 3	3
458-344 Truck Driving 4	2
Total Credits.....	12

Minimum Program Credits Required - 12

**This program will be a combination of traditional classroom, lab and online computer-based learning. The first two days of instruction will be delivered in a face-to-face computer lab. The remaining lecture portion of the courses will be delivered online, facilitated by your instructor.

For a complete listing of course descriptions see back of catalog.

458-341 Truck Driving 1

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

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

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 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

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.

Notes

Truck Driving

Offered in Eau Claire

31-442-1

August and January entry dates for full-time students and August entry date for part-time evening

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



2010-11 Employment Facts

Average Hourly Wage \$16.21

Average Monthly Income \$3254.90

Employers

Advanced Laser Machining; Chippewa Falls, WI
American Metal Fab; Eau Claire, WI
Ashley Anderson; Colfax, WI
Blackwater Diving; Morgan City, LA
CB & I, Inc (Construction Division); Woodlands, TX
Global Finishing Solutions; Osseo, WI
Haas Sons; Thorp, WI
Jeremy Manufacturing; Eau Claire, WI
Midwest Manufacturing; Eau Claire, WI
NMC Wollard; Eau Claire, WI
Northwest Enterprises; Eau Claire, WI
OEM Fabricators Inc; Woodville, WI
OEM Fabricators Inc; Neillsville, WI
Oshkosh Truck; Oshkosh, WI
Regal- Beloit Electric Company; Black River, WI
River Steel Inc.; West Salem, WI
Whitehall Specialties; Whitehall, WI

First Term	Credits
421-386 Welding-Blueprint Reading	2
442-351 Weld Theory & Cutting Process	2
442-361 Basic Arc Welding	5
442-362 Basic Wire Feed Welding	4
457-380 Layout and Fabrication 1/CNC	2
804-360A Math for Tech Trades-Welding	2
Total Credits	17

Second Term	Credits
442-301 Metallurgy.....	2
442-360 Robotic Welding	2
442-363 Adv Wire-Feed Welding.....	4
442-366 Advanced Arc Welding	4
457-381 Layout and Fabrication II.....	2
801-175 Job-Search Communication	1
Total Credits	15

Third Term	Credits
442-364 Gas Tungsten Arc Welding	4
442-365 Welding Rigging/Forklift Trng	2
Total Credits	6

Minimum Program Credits Required - 38

For a complete listing of course descriptions see back of catalog.

442-361 Basic Arc Welding

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 (SMA W, arc welding, stick welding); metal cutting procedures. This class requires the purchase of approximately \$540 in tools and equipment.

421-386 Welding-Blueprint Reading

Drawing fundamentals related to two and three view drawings; visual projection methods; freehand sketching; weld symbols and how to apply them.

457-380 Layout and Fabrication 1/CNS

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

442-301 Metallurgy

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.

442-360 Robotic Welding

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.

Notes

Welding

Offered in Eau Claire • August entry date

32-457-1

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.

To enter into the Welding Fabrication two year diploma, you must first complete the one year Welding diploma program.

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



2010-11 Employment Facts

This is a new program. Graduate employment information is not available.

Employers

Advanced Laser Machining; Chippewa Falls, WI
American Metal Fab; Eau Claire, WI
Ashley Anderson; Colfax, WI
Blackwater Diving; Morgan City, LA
CB & I, Inc (Construction Division); Woodlands, TX
Global Finishing Solutions; Osseo, WI
Haas Sons; Thorp, WI
Jeremy Manufacturing; Eau Claire, WI
Midwest Manufacturing; Eau Claire, WI
NMC Wollard; Eau Claire, WI
Northwest Enterprises; Eau Claire, WI
OEM Fabricators Inc; Woodville, WI
OEM Fabricators Inc; Neillsville, WI
Oshkosh Truck; Oshkosh, WI
Regal- Beloit Electric Company; Black River, WI
River Steel Inc.; West Salem, WI
Whitehall Specialties; Whitehall, WI

First Term	Credits
421-386 Welding-Blueprint Reading	2
442-351 Weld Theory & Cutting Process	2
442-361 Basic Arc Welding	5
442-362 Basic Wire-Feed Welding	4
457-380 Layout and Fabrication 1/CNC	2
804-360A Math for Tech Trades-Welding	2
Total Credits.....	17
Second Term	Credits
442-301 Metallurgy.....	2
442-360 Robotic Welding	2
442-363 Adv Wire-Feed Welding.....	4
442-366 Advanced Arc Welding	4
457-381 Layout and Fabrication II.....	2
801-175 Job-Search Communication	1
Total Credits.....	15
Third Term	Credits
442-364 Gas Tungsten Arc Welding	4
442-365 Welding Rigging/Forklift Trng	2
Total Credits.....	6
Fourth Term	Credits
442-350 Pipe Welding	4
457-360 Advanced Processes	2
457-361 Advanced Fabrication I	2
606-161 CAD, Basic	3
625-160 Core Manufacturing Skills	2
804-107 College Mathematics	3
Total Credits.....	16
Fifth Term	Credits
442-373 Welding Applications	4
457-370 Advanced Fabrication 2	3
457-371 Advanced Robotic Welding	2
457-372 NDT and Welding Codes	2
801-196 Oral/Interpersonal Comm	3
Total Credits.....	14

Minimum Program Credits Required - 68

For a complete listing of course descriptions see back of catalog.

442-361 Basic Arc Welding

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 (SMA W, arc welding, stick welding); metal cutting procedures. This class requires the purchase of approximately \$540 in tools and equipment.

421-386 Welding-Blueprint Reading

Drawing fundamentals related to two and three view drawings; visual projection methods; freehand sketching; weld symbols and how to apply them.

457-380 Layout and Fabrication 1/CNC

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.

442-301 Metallurgy

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.

442-360 Robotic Welding

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.

Notes

Apprenticeships

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, 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 a program counselor at 715-833-6346. The state website for apprenticeship programs is 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
Total Credits		10

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/Event Mkt	3
Total Credits		15

Human Resource Generalist (TC-196-2)

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 five three-credit courses listed below. Each course is conveniently offered at night and does not require a prerequisite.

Course #	Course Title	Credits
196-110	Employee Benefits	3
196-111	Perform Mgmt & Empl Reward Sys	3
196-112	Training Systems	3
196-113	Human Resource Law	3
196-114	Recruitment & Selection	3
Total Credits		15

Business , Finance & Marketing

Leadership/Supervision (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.

Course #	Course Title	Credits
102-112	Principles of Management	3
102-113	Business Ethics	3
196-111	Perform Mgmt & Empl Reward Sys	3
196-190	Leadership Development	3
Total Credits		12

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
Total Credits		12

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
Total Credits		12

Short-Term Training Certificates

Business , Finance & Marketing

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
Total Credits		15

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
Total Credits		12

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
Total Credits		13

Business , Finance & Marketing

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
Total Credits		12

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
Total Credits		11

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
Total Credits		5

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
Total Credits		5

Information Technology

.NET-VB/ASP (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-VB	3
152-105	.NET-ASP	3
152-106	Operating Systems	2
152-132	Database 1	3
Total Credits		14

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	C++ Programming	3
152-161	3D Modeling 1	3
152-162	3D Simulation Programming	3
Total Credits		12

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	3
Total Credits		6

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
Total Credits		10

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
Total Credits		8

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
Total Credits		22

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	OO Analysis & Design-Java	3
Total Credits		12

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	OO Analysis & Design – Java	3
152-151	Mobile Application Development.....	3
Choose 1 course(s) from the following:		
152-104	Object-Oriented Design w UML.....	2
152-106	Operating Systems	2
Total Credits		11

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	A+ Review & Advanced Hardware	3
150-183	Wireless Networking.....	2
Total Credits		12

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 & PHP	3
Total Credits		9

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
Total Credits		8

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
152-107	Web 1-HTML & CSS	3
152-159	Web Multimedia	3
152-168	Multimedia Program & Design	3
Total Credits		9

Law, Public Safety & Security

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	4
531-340	Advanced EMT	3
Total Credits		3

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
Second Term:		
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
Total Credits		24

Short-Term Training Certificates

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
Total Credits		9

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
Total Credits		17

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
Total Credits		12

Course Descriptions

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 Mgmt.

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.

001-103 Turf Mgmt & Irrigation Systems 2 cr

Examines how to effectively establish and maintain professional lawn/turf. Covers identification and selection of turf grasses, establishment and maintenance practices. The course will include nutrient needs, integrated pest management, diagnosing problems, corrective strategies, irrigation principles and irrigation implementation.

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.

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.

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 Mgmt.

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.

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.

001-112 Interior Plants & Landscaping 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.

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.

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.

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.

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 Mgmt.

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 Mgmt.

001-125 Horticulture Equipmnt & Safety 2 cr

Focuses on how to maintain and operate a skid steer loader, forklift, tillage handlers, turf mowing equipment and general landscape equipment.

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.

Course Descriptions

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.

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.

Course Descriptions

006-175 Managed Ag Precision Sys 1	2 cr	006-191 Adv Agriscience Internship	2 cr
This course will focus on maximizing the use and implementation of common equipment used in today's production of row crops. Save 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% 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.		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.		Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.	
006-176 Managed Ag Precision Sys 2	3 cr	006-192 Farm Business Spanish	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% 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.		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.	
Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.			
006-180 Animal Science	3 cr	006-193 Interm Farm Business Spanish	2 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.		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.	
006-182 Animal Reproduction	3 cr	006-199 Agriscience-Ind Study	3 cr
Reproductive process in animals; conception, fetal development.		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.	
006-184 Herd Health & Sanitation	2 cr	006-199A Agriscience-Ind Study	2 cr
Maintain healthy dairy herd; reducing somatic cell count; role of vaccines, antibiotics, probiotics.			
		006-199B Agriscience-Ind Study	2 cr
006-186 Managing Youngstock & Dry Cows	1 cr		
Non-lactating cow to calving, raising heifers to parturition.		007-Biotechnology	
		007-111 Applied Biotechnology	2 cr
006-188 Feed Analysis	2 cr	Applications of biotechnology to agriscience; tissue culturing such as cloning, cell manipulation and gene transfer.	
Dairy feeds; quality and nutritional value.			
006-189 Ration Formulation	2 cr	090-Farm Business Management	
Nutritional requirements for growth, reproduction and lactation stages.		090-310 Farm Bus Planning & Risk Mgmt	4 cr
006-190 Agriscience Internship	3 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.	
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): 30-090-1 Farm Bus & Production Mgmt.	
Restricted to students admitted to the following program(s): 10-006-3 Agriscience Technician.		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.	

Course Descriptions

090-330 Precisin Agronomics&Energy Mgmt 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.

090-340 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.

090-350 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.

090-360 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 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 Fclty/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 QuickBooks for Farmers 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 Basic Comp Skills for Farmers 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, email, and multimedia options. This course is designed for individuals who have limited knowledge of computer usage.

101-Accounting

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 Acctg Spdsheets & Calculations 2 cr
This course introduces students to the touch method for ten-key calculators. Students are also introduced 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.

Course Descriptions

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.

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. Check with your instructor so you obtain the correct version. If you live near one of our campuses, you may have access there.
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).

Course Descriptions

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 the many 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, PowerPoint, and Publisher. Activities focus on using the software 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.

102-112 Principles of Management 3 cr

Students learn about the four managerial functions of planning, organizing, leading, and controlling in contemporary organizations. A series of self-assessment questions provide insight into personal behaviors and help students turn managerial theories into potential personal managerial practices. Students learn how management processes apply to a global environment.

102-113 Business Ethics 3 cr

Stresses ethics specifically in business and corporate social responsibility in 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 social 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): 102-111 Human Resources, Intro to 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 interviews. Students meet once a week during the semester with the instructor to discuss techniques for getting and keeping a job and other career-enhancing strategies. Take during the final semester.

Prerequisite(s): 102-111 Human Resources, Intro to 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

Course introduces student to the principal areas of business, including the organization of a business, the economic, industrial, and global business environment, management issues in business, ethical issues, human resource, 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, developing a project proposal, use of relevant software, working with project teams, sequencing tasks, charting progress, dealing with variations, budgets and resources, implementation, and assessment.

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. Restricted to students admitted to the following program(s): 31-502-1 Barber-Cosmetologist.

103-Computer Software

103-102 Microsoft Office Suite 2 cr

The goal of this course is to provide an opportunity for students to use

Course Descriptions

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.

103-102A Microsoft Office Ste, Intro to **1 cr**

Beginning class for people who want to learn MS Word, Excel, Access, and PowerPoint on the Windows 95 environment.

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.

103-104C e-Commerce Training **1 cr**

103-106 Computer Success w/ Windows XP **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 email 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 **4 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.

104-115 Marketing Decision Making **3 cr**

The student has the opportunity to develop their marketing decision making skills through case studies and simulations. Decision making is both individual as well as group. Students will also review goal setting, group dynamics, as well as personal leadership strategies. Students will complete many self-discovery activities and self-assessments to determine their strengths and weaknesses as this information applies to marketing decision making.

Prerequisite(s): 104-102 Marketing Principles and 196-164 Supervision of Personnel.

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 Technology in 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

Course Descriptions

playing in a 'nonretail' environment.

Prerequisite(s): 104-104 Professional Selling.

104-152 Social Media Marketing **2 cr**

In this course, we will explore the latest strategies for monitoring and engaging consumers in social media from a marketing perspective. You will learn how to connect with consumers and analyze what they're saying about companies, brands, products and competitors. We'll also study how the principles of word-of-mouth, viral marketing, and buzz marketing can be used to leverage the network and conversation power of social media. The course also provides a hands-on approach to employ web building, audio editing, video editing, and an introduction to promotional design. For the final project, you will create a social media marketing plan for a selected product or service.

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 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 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. Co-requisite(s): 502-314 Chemical Services 2 and 502-322 Salon Services 2. Restricted to students admitted to the following program(s): 31-502-1 Barber-Cosmetologist.

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).

Course Descriptions

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.

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 email, 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 Office 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): 106-154 Integrated Software Applic. 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 technolo-

gies, 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 Spreadsht Solutions).

106-151 Managing Office Projects 3 cr
This fundamental course in project management will help students learn to use and apply project management tools such as MS Project. Emphasis is on understanding an assistant's role in skillfully using project management software to aid a business in defining, planning, controlling, scheduling, and leading projects.

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

Course Descriptions

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.

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 email 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.

106-166 Computer Success Fundamentals **2 cr**

This course is for individuals with little-to-no computer experience. Students will have an opportunity to gain knowledge in basic computer operations, terminology, hardware and software but may have limited or no internet access. An emphasis will be placed on file/document management.

106-171 Adv Software Applications **3 cr**

Students will continue their work in Office 2007 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 Office 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-Computer Information Systems

107-123 Computer & Oper Sys Concepts 3 **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

109-Hospitality

109-100 Hospitality Industry, Intro to **2 cr**

Will introduce you to the many facets of the hotel and restaurant management industry and help you explore those that interest you. Computer literacy required.

109-101 Food Service Equip Fundamental **4 cr**

This lab class explores commercial food service equipment while utilizing basic formulas and recipes as experiments. Hospitality equipment is practiced giving students a hands-on approach to various systems found in a restaurant. Front of the house experience is gained within the deli/snack bar operation.

109-108 Hospitality-Customer/Empl Rel **3 cr**

Stresses the importance of customer satisfaction and providing hospitality as well as service.

Course Descriptions

109-114 Tourism, Intro to	2 cr	109-171 Hotel Operations	3 cr
Social impacts of tourism, destination development, travel, transportation, and cultural diversity.		Practice and theory in the following hotel areas: housekeeping, security, staffing and scheduling, guest relations, processes and procedures at the front desk, night audit and hotel accounting.	
109-120 Restaurant Operations Mgmt	5 cr	109-181 Dining Room Service	3 cr
In an actual restaurant kitchen/lab, students produce different styles of menu items which are served to the public. Various food production equipment is utilized in the process. Students plan and create menus, purchase supplies, and formulate recipes in the Valley Rose Restaurant. Each student has the opportunity to control the production staff and participate with the dining room services class. Prerequisite(s): 109-101 Food Service Equip Fundamental and 109-152 Sanitation & Safety Fundmentls. Co-requisite(s): 109-181 Dining Room Service.		Provides a hands-on opportunity to learn the management of a restaurant. Students will operate the Valley Rose Restaurant. Prerequisite(s): 109-152 Sanitation & Safety Fundmentls. Co-requisite(s): 109-120 Restaurant Operations Mgmt.	
109-131 Hospitality Purch & Cost Contr	3 cr	109-192 Hotel & Restaurant Internship	2 cr
Purchasing and cost control procedures are explored using inventory, ordering, menu planning, and labor cost control techniques. Students will examine various purchasing specifications and the means to obtain a profitable P & L statement. Prerequisite(s): 804-106 Intro to College Math (or taken concurrently).		Students will work 144 hours in the hospitality industry to complete on-the-job training, work analysis, employment exploration, and industry comparisons. Co-requisite(s): 109-141 Hotel-Restaurant Mgmt Seminar. Restricted to students admitted to the following program(s): 10-109-2 Hotel and Restaurant Mgmt.	
109-134 Hospitality Supervision	3 cr	109-197 Opportunities in Hosp. Mgmt.	3 cr
Students focus on leadership styles and motivational techniques; training, job descriptions, and performance standards; hiring and evaluation; legal requirements.		Independent study course in which student contracts with the instructor; study of topics related to the program but not covered in depth in another course.	
109-135 Meeting & Special Events Plng	3 cr	110-Paralegal	
Learners will gain a broad perspective of the special event segment of the Hospitality and Tourism industry as well as special event planning. Emphasis is placed on the basic skills and framework for producing successful banquets, conventions, meetings, and expositions.		110-101 Paralegal & Legal Ethic, Intro	3 cr
109-136 Hospitality Law	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.	
Focuses on the legal aspects of the industry. The employers, guests, and employees' responsibilities, liabilities, and rights are examined as they affect each of the others.		110-102 Civil Litigation I	3 cr
109-141 Hotel-Restaurant Mgmt Seminar	2 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.	
Development of work related skills including resume development, time management, ethics and professionalism, conflict management, problem solving, stress management, and basic management functions. Co-requisite(s): 109-192 Hotel & Restaurant Internship. Restricted to students admitted to the following program(s): 10-109-2 Hotel and Restaurant Mgmt.		110-103 Civil Litigation II	3 cr
109-144 Hospitality Promotion	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.	
Basic marketing concepts, determination of market segments, and promotional techniques.		110-104 Legal Research	3 cr
109-152 Sanitation & Safety Fundmentls	1 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.	
Includes the National Certification for Sanitation as well as the issues of personal and customer safety.			
109-160 Beverage Merchandising	2 cr		
Bartender awareness, how alcoholic beverages differ, bar set-up, alcoholic alternatives, current and past trends in marketing alcoholic beverages.			

Course Descriptions

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.	110-142 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): TC-110-1 Paralegal Post-Baccalaureate, 10-110-1 Paralegal.
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.	110-143 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.
110-107 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.	110-147 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 801-219 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.
110-110 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 801-219 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.	110-160 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 801-219 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.
110-114 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.	110-168 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.
110-115 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 801-219 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.	110-170 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 801-219 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.
110-122 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 801-219 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.	

Course Descriptions

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 801-219 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.

145-Small Business

145-102 Creating a Business Plan

3 cr

Students will develop, research, and write a detailed business plan that can be presented to potential funders and investors and used to create successful businesses.

150-IT - Network Communications

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 learning management system course management system and will require the learner to have access to an Internet connected PC for course-work 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): 10-150-2 IT-Network Specialist, TC-150-2 IT Network Support Associate, TC-150-3 Ntwrk Hdw Support 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): TC-150-2 IT Network Support Associate, 10-150-2 IT-Network Specialist.

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): 10-150-2 IT-Network Specialist, TC-150-2 IT Network Support Associate.

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 Cnpts 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): TC-150-2 IT Network Support Associate, TC-150-1 Cisco Networking Academy, 10-150-2 IT-Network Specialist, 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.

Course Descriptions

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 Direc-

tory 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 an in-depth knowledge and competency in core computer hardware and operating system technologies including installation, configuration, diagnostics, and preventative maintenance. Advanced configuration and computer support issues such as power conditioning, grounding, system backup, RAID, serial ATA, image deployment, and printer/copier maintenance will be investigated. At course completion, students will have acquired the competencies to sit for the A+ certification exams. Course fee includes the cost for a single attempt of the CompTIA A+ Essentials and 220-602, -603, -604 certification exams.

Prerequisite(s): 605-123 Computer Hardware or 150-143 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): 150-160 Network Directory Services or 150-162 Network Administration and 150-165 Microsoft Windows Network Adm

Course Descriptions

and (150-175 Unix System Administration and 150-151 Cisco 2: Routing Protocol/Conc and 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. Department Chair approval.

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 Network/Intranet (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, while loops, and array processing. With an emphasis on hands-on activities, students use pseudo code and flowcharting tools to build problem-

solving skills. Programming concepts and problem-solving skills are synergized and applied through the completion of a variety of programming exercises using the Javascript programming language. Restricted to students admitted to the following program(s): TC-152-5 3D Game/Sim Programming I, TC-152-6 Java, 10-152-1 IT-Programmer/Analyst, TC-152-8 Web Development 1, 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-VB 3 cr

In this course you will explore Visual Basic concepts and database usage using ADO.NET, develop subs and functions, and develop objects and classes. This course will require you to create an application that will be presented at the end of the semester. Prerequisite(s): 152-101 Programming Fund - JavaScript.

152-104 Object Oriented Design w UML 2 cr

This course provides an overview of the use of Unified Modeling Language and object oriented design concepts. Students will apply UML and practice object oriented design principles in software development exercises and projects. Prerequisite(s): 152-103 .NET-VB and 152-108 Web 2-JavaScript & PHP.

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-VB.

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): 10-152-1 IT-Programmer/Analyst, TC-152-9 Web Development 2, TC-152-11 Dbase Analysis & Development, TC-152-7 .NET - VB/ASP.

152-107 Web 1-HTML & CSS 3 cr

Create dynamic Web pages using XHTML and Cascading Style Sheets (CSS). Basic knowledge of the Internet recommended. An online offering of this course is available. Restricted to students admitted to the following program(s): TC-152-8 Web Development 1, 10-152-1 IT-Programmer/Analyst, TC-152-10 Web Multimedia.

152-108 Web 2-JavaScript & PHP 3 cr

This course will include a study of creating dynamic web applications using client-side JavaScript and the server-side PHP environment. Prerequisite(s): 152-101 Programming Fund - JavaScript and (152-107 Web 1-HTML & CSS or 107-107 Web Programming I).

Course Descriptions

152-109 XML/AJAX

3 cr

This course is designed to provide the student with the next step in Web development after XHTML. This course is a hybrid course, where we will meet in class at least half of the time. The remainder is online. XML-eXtensible Markup Language is the foundation for B2B (business-to-business) commerce. XHTML is limited to the presentation of how information looks on the computer screen. XML is used to facilitate the manipulation of the document, information, text, and data contained within the document. AJAX is used to present dynamic content to a browser asynchronously. The format of this course is lecture with extensive labs to apply XML principles to database information for the Internet.

Prerequisite(s): (152-108 Web 2-JavaScript & PHP or 107-108 Web Programming II).

152-110 eBusiness Fundamentals

2 cr

eBusiness Fundamentals is the study of current trends in the use of Internet technologies as a tool for business development. Some of the topics covered include the relationship of Electronic Data Interchange to eCommerce and eBusiness, promoting a firm's website to online search services, and Internet security technologies.

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-VB (or taken concurrently).

152-117 User Interface Design

2 cr

The design of the user interface can make or break a website or application. This course helps students develop an appreciation for the user experience by investigating and applying user-centered design techniques. Students will learn to identify and incorporate attributes of successful user interfaces through hands-on activities that include user interface critiques and user interface design and development projects.

152-126 Agile Programming

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 a software approach. This involves planning and estimating, charting progress, testing, programming/developing intermediate solutions, and delivering the final product. Projects chosen for this course will be based on authentic situations encountered by real businesses as much as possible.

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. The relational model is examined and utilized as students, through hands-on activities in- and outside the classroom, practice those current database concepts by creating, populating, manipulating, and querying multi-table relational database using MS Access.

Restricted to students admitted to the following program(s): TC-152-9 Web Development 2, TC-152-7 .NET - VB/ASP, TC-152-6 Java, TC-152-11 Dbase Analysis & Development, 10-152-1 IT-Programmer/Analyst.

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.

Prerequisite(s): 152-101 Programming Fund - JavaScript.

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).

Course Descriptions

- 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.
- 152-152 .NET - C#** 2 cr
A hybrid of C and C++, C# is a Microsoft programming language developed to compete with Sun's Java language. C# is an object-oriented programming language used with XML-based Web services on the .NET platform and designed for improving productivity in the development of Web applications.
Prerequisite(s): 152-101 Programming Fund - JavaScript. Restricted to students admitted to the following program(s): 10-152-1 IT-Programmer/Analyst.
- 152-159 Web Multimedia** 3 cr
Create animation for the web using the latest Flash development environment. The Flash interface will be thoroughly explored as you create Flash animation in this project-based course. Learn to create Flash vector graphics, tween animations, preloaders, and other applications as well as an introduction to ActionScript programming in Flash.
Prerequisite(s): 152-101 Programming Fund - JavaScript and 152-107 Web 1-HTML & CSS.
- 152-160 C++ Programming** 3 cr
Provides an introduction to computer programming logic using the C++ 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 various control structures.
Prerequisite(s): 152-101 Programming Fund - JavaScript.
- 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 imagery into a simulation engine to build 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 intermediate 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-hanging, and other related topic.
Prerequisite(s): 152-108 Web 2-JavaScript & PHP and (152-132 Database 1 (or taken concurrently) or 107-132 Database Applic 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 soft body dynamics. Prerequisite(s): 152-161 3D Modeling 1.
- 152-166 IT-P/A Capstone** 3 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 & PHP. Restricted to students admitted to the following program(s): TC-152-13 3D Game/Sim Programming 2, 10-152-1 IT-Programmer/Analyst.
- 152-168 Multimedia Program & Design** 3 cr
This course will continue to build on the Flash skills practiced in Web Multimedia class. In this class you will learn to harness the power of ActionScript - Flash's programming environment. Create powerful and entertaining web applications utilizing the 2D and 3D animation capabilities of Flash in this project-based course.
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 email, face-to-face visits, and learning management system 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).

Course Descriptions

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 email and Web-content management. Trends and emerging issues will also be explored.

Prerequisite(s): 176-121 Records & Info Technology.

196-Supervision & Leadership Dev

196-110 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 every dynamic retirement programs used today. An emphasis will be on health insurance, cafeteria plans, and a functional approach to employee benefit planning. A course outcome will be planning and preparing a company sponsored benefit plan.

196-111 Perform Mgmt & Empl Reward Sys

3 cr

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.

196-112 Training Systems

3 cr

This course provides an in-depth look at the process of employee training and development. Coverage includes how training relates to organizational goals, needs assessment, adult learning, training evaluation, employee orientation, selecting trainers, and much more.

196-113 Human Resource Law

3 cr

This course is designed to help the participant understand the law as it applies to the management of human resources. It addresses such topics as ADA compliance, hiring practices, discrimination issues, sexual harassment, and other human resource issues. Its coverage is aimed at helping HR employees recognize legal problems, to know the legal impact of decisions on personnel matters and to be knowledgeable in general of the law as it might impact individuals in organizations.

196-114 Recruitment & Selection

3 cr

In this course we will learn the importance of human capital and its impact on organizational 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.

196-127 Employee Relations

3 cr

Today's workforce places high expectations on their respective Human Resource department from communication and advice on confidential matters to 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 topic areas; customer service techniques, professional etiquette, confidentiality requirements, different work cultures and generational attitudes, and career paths in the Human Resource field. This course is intended to serve as the first program course for the Human Resource degree.

Prerequisite(s): 102-111 Human Resources, Intro to.

196-128 Human Resources Internship

1 cr

Provides the student with 80 hours of on-site experience completing human resource-type tasks in a professional setting. Students may analyze data, prepare recommendations, and draft reports, serving in a human resources capacity. The following HR functions are examples where the student will be placed: staffing, payroll, safety, recruiting, benefit administration, training, and other support functions. Students are expected to coordinate with the instructor to locate an appropriate internship site. The internship may be paid or unpaid. Students are supervised and evaluated by both the site work supervisor and the instructor. Take during final semester.

Prerequisite(s): 196-127 Employee Relations and 196-110 Employee Benefits and 196-113 Human Resource Law and 196-114 Recruitment & Selection and 196-136 Safety in the Workplace (or taken concurrently) and 196-111 Perform Mgmt & Empl Reward Sys (or taken concurrently) and 101-121 Payroll Accounting (or taken concurrently).

196-134 Legal Issues for Supervisors

3 cr

The learner applies the skills and tools necessary for a supervisor to effectively function in today's legal work environment. Each learner will demonstrate the application of legal practices in both union and nonunion environments, analysis of the impact of US employment laws, the impact of the global economy, the appeal process, reacting to legal charges, documenting the hiring and firing process, dealing with harassment issues, privacy issues, and summarizing legal issues facing contemporary supervisors. Prerequisite is not required when course is delivered via the Internet.

196-136 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. 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.

196-163 Personal Skills for Supervisor

3 cr

The learner applies the skills and tools necessary to deal with the time management, stress, and related challenges to a supervisor. Each learner

Course Descriptions

will demonstrate the application of time management techniques, personal planning, continuous learning, valuing rights and responsibilities of others, effective communication, assertiveness, and dealing effectively with stress.

196-164 Supervision of Personnel 3 cr

Examines in detail the major functions of supervision: planning, organizing, staffing, directing, and controlling. Special attention is given to motivating workers, delegating effectively, and communicating with subordinates. The emphasis is directed to the first level of supervision to prepare the student for his/her first supervisory role.

196-168 Organizational Development 3 cr

The learner applies the skills and tools necessary to effectively deal with organization behavior and change. Each learner will demonstrate the application of the impacts of globalization on an organization, dealing with organization culture, dealing with change and future challenges affecting the total organization, organization decision making, vision, goals, performance management and planning, and the role of organization structure. Only the 196-191 Supervision prerequisite is required when course is delivered via the Internet.

Prerequisite(s): 196-190 Leadership Development and 196-191 Supervision.

196-169 Diversity & Change Management 3 cr

The learner applies the skills and tools necessary to implement and maintain a diverse work environment which values change. Each learner will demonstrate the application of assessing the current extent of diversity in the workplace, analyze the effect of perceptions, attitudes, biases, and organization culture on diversity, dealing with barriers, change management strategy, process and reactions, measuring progress, and celebrating success. Prerequisite is not required when course is delivered via the Internet.

Prerequisite(s): 196-163 Personal Skills for Supervisor (or taken concurrently).

196-189 Team Bldg & Problem Solving 3 cr

The learner applies the skills and tools necessary to facilitate problem solving in a team environment. Each learner will demonstrate the application of the benefits and challenges of group work, necessary roles in a team, stages of team development, different approaches to problem solving, consensus, a systematic process of problem definition, data acquisition, analysis, developing alternative solutions, solution implementation, and evaluation. Prerequisite is not required when course is delivered via the Internet.

196-190 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 evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change, and effective conflict resolution.

196-191 Supervision 3 cr

The learner applies the skills and tools necessary to perform the functions of a frontline leader. Each learner will demonstrate the application of strategies and transition to a contemporary supervisory role including day-to-day operations, analysis, delegation, controlling, staffing, leader-

ship, problem-solving, team skills, motivation, and training. Prerequisite is not required when course is delivered via the Internet.

196-192 Managing for Quality 3 cr

The learner applies the skills and tools necessary to implement and maintain a continuous improvement environment. Each learner will demonstrate the application of a personal philosophy of quality, identifying all stakeholder relationships, meeting/exceeding customer expectations, a systems-focused approach, using appropriate models and tools, managing a quality improvement project, and measuring effectiveness of continuous improvement activities. Prerequisite is not required when course is delivered via the Internet.

196-193 Human Resource Management 3 cr

The learner applies the skills and tools necessary to effectively value and apply employees' abilities and needs to organization goals. Each learner will demonstrate the application of the supervisor's role in contemporary human resources management, impacts of EEOC, writing job descriptions, recruitment, selection, conducting job interviews, orientation, developing policies and procedures, training, performance management, employee counseling and development, and effective use of compensation and benefit strategies. Prerequisite is not required when course is delivered via the Internet.

Early Childhood Education

307-101 Infants Toddlers & Caregivers 3 cr

This course is designed to prepare individuals to provide quality to very young children. The course will be divided into three basic components, which include infant and toddler development, in addition to ages and stages, brain development, guidance techniques and attachment. The second component will encompass issues involving the caregiver, such as principles of caregiving, the curriculum, play, and diversity. The final module includes observation, assessment, and finally reflection. The overall objective of this course is to help caregivers gain knowledge and be able to apply that knowledge as they provide creative and quality care to very young children in whole and healthy ways.

307-102 Dev Learning Activities 3 cr

The value of creative and structured art and language activities is studied along with the utilization of materials and activities which are useful in the development of the program curriculum. Through creative planning and problem-solving techniques, the student will develop activity plans, implement these plans, and evaluate their effectiveness. The development and benefit of play activities for young children are introduced.

307-103 Child Guidance 3 cr

This course examines the ways in which children are socialized in our society. The development of children is studied in relationship to the influences of families and communities. Positive guidance techniques are developed to support children's social and emotional development. Stresses affecting children are identified and reasoning methods to enable children/families to adapt optimally to change are developed. Child abuse and neglect are examined with an emphasis on identification, reporting, and prevention. Brain development as well as environmental influences upon behavior will be discussed.

307-105 Curriculum Design 3 cr

Insight into the social world of young children will be gained as students design environments, activities, and routines to promote children's pro-social behavior. Students will be exposed to a variety of developmentally

Course Descriptions

307-110 Early Childhood Educ, Intro to **3 cr**
Introduces learners to the early childhood education profession. Learners examine types of early childhood education settings, the history of early childhood education, legal and ethical responsibilities of early childhood education professionals, and early childhood education professional organizations. Learners also assess their ability to work in this profession and initiate development of a professional plan.

307-138 Early Childhood Practicum I **2 cr**
Provides opportunity to practice interaction with young children in the child care center under supervision. This practicum allows learners to apply a combination of knowledge, skills, and experiences acquired in related child care courses to that of the practicum site.
Prerequisite(s): 307-110 Early Childhood Educ, Intro to (or taken concurrently).

307-139 Early Childhood Practicum 2 **3 cr**
Provides experience using developmentally appropriate child care techniques in a supervised setting. Learners practice and refine skills appropriate to the care of young children and to the provisions of a safe and healthy learning environment.
Prerequisite(s): 307-138 Early Childhood Practicum I or 307-174 ECE: Practicum 1.

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.

307-165 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 development and learning; analyze 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.

307-167 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.

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 pro-

Course Descriptions

grams 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 Applic of Refrig & Air Co.

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

Course Descriptions

benefit of learning in a well-equipped lab that provides experience on both residential and commercial refrigeration systems.

Prerequisite(s): 401-303 Applc 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). Video-tapes 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 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

Course Descriptions

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): 32-404-2 Automotive Technician, 31-404-3 Automotive Maintenance Tech.

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 and 404-339 Automotive Brake Systems.

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 and 404-339 Automotive Brake Systems.

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 and 404-339 Automotive Brake Systems.

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). Co-requisite(s): 404-336 Basic Vehicle Maintenance and 404-337 Automotive Electricity 1 and 404-338 Automotive Electricity 2.

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 horse power 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): 404-350 Auto Steering & Suspension Sys and 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): 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-355 Auto Engine Performance 3.

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.

Course Descriptions

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): 404-350 Auto Steering & Suspension Sys and 404-351 Auto Engine Performance 1 and 404-352 Auto Engine Performance 2.

404-356 Automotive HVAC Systems 4 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): 404-350 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): 404-357 Auto Safety & Security Systems.

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): 404-350 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.

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): 404-356 Automotive HVAC Systems and 404-357 Auto Safety & Security Systems. Co-requisite(s): 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair.

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): 404-356 Automotive HVAC Systems and 404-357 Auto Safety & Security Systems. Co-requisite(s): 404-360 Auto Axles & Drive Trains and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair.

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): 404-356 Automotive HVAC Systems and 404-357 Auto Safety & Security Systems. Co-requisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-363 Engine Repair.

404-363 Engine Repair 3 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 404-357 Auto Safety & Security Systems. Co-requisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles.

404-370 Adv Auto Chassis Systems 4 cr

A 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): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-371 Adv Engine Perf & Alt Fuels and 404-372 Service Simulation and 404-373 High Performance Automotive and 404-374 ASE Test Preparation.

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): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-370 Adv Auto Chassis Systems and 404-372 Service Simulation and 404-373 High Performance Automotive and 404-374 ASE Test Preparation.

Course Descriptions

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 Transmission & Trnsaxles and 404-362 Auto Transmission & 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 Preparation.

404-373 High Performance Automotive **1 cr**
A course of study designed to provide the student with the skills needed to perform basic improvements to drive train components to enhance vehicle performance. Performing legal modifications to existing vehicle components will be discussed, with emphasis on differentiating between legitimate and scam-type modifications.
Prerequisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-370 Adv Auto Chassis Systems and 404-371 Adv Engine Perf & Alt Fuels and 404-372 Service Simulation and 404-374 ASE Test Preparation.

404-374 ASE Test Preparation **1 cr**
This course will help prepare students to write the ASE certification tests in all eight areas. Practice ASE exams will be used to learn test taking strategies and retain automotive technical knowledge. The ASE End of Program Tests will also be taken during this course.
Prerequisite(s): 404-360 Auto Axles & Drive Trains and 404-361 Manual Transmission & Trnsaxles and 404-362 Auto Transmission & Trnsaxles and 404-363 Engine Repair. Co-requisite(s): 404-370 Adv Auto Chassis Systems and 404-371 Adv Engine Perf & Alt Fuels and 404-372 Service Simulation and 404-373 High Performance Automotive.

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 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.

Course Descriptions

410-Carpentry

410-313 Constr Mgmt Proposals & Contr 2 cr

This course is for students that have completed the Wood Technics program or individuals who have a strong background in residential construction. This is a basic course in the processes and procedures involved in running residential and light commercial construction projects. This course should give the student a better understanding of how to properly handle the construction process from an organizational standpoint. It will cover job proposals and specifications, construction contracts, change orders, and customer relations.

Prerequisite(s): 410-307 Roof Systems or 410-310 Wood Technics Ia.

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 IIb. 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 Air Conditioning/Refrigeration.

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 Air Conditioning/Refrigeration.

412-309 Air Conditioning/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.

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 Air Conditioning/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 Air Conditioning/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.

Course Descriptions

Schematic interpretation, troubleshooting techniques using a 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 Air Conditioning/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 chance 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 Elec Power Dist Fund 1A **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 Elec Power Dist Fund 1B and 413-305 Elec Power Dist Fund 1C-AppLab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

413-304 Elec Power Dist Fund 1B **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 Elec Power Dist Fund 1A and 413-305 Elec Power Dist Fund 1C-AppLab. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

413-305 Elec Power Dist Fund 1C-App 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 Elec Power Dist Fund 1A and 413-304 Elec Power Dist Fund 1B. Restricted to students admitted to the following program(s): 31-413-2 Electrical Power Distribution.

413-306 Elec Power Dist Fund 2A **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 Elec Power Dist Fund 1A and 413-304 Elec Power Dist Fund 1B and 413-305 Elec Power Dist Fund 1C-AppLab. Co-requisite(s): 413-307 Elec Power Dist Fund 2B and 413-308 Elec Power Dist Fund 2C-AppLab.

413-307 Elec Power Dist Fund 2B **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.

Prerequisite(s): 413-303 Elec Power Dist Fund 1A and 413-304 Elec

Course Descriptions

Power Dist Fund 1B and 413-305 Elec Power Dist Fund 1C-AppLab.
Co-requisite(s): 413-306 Elec Power Dist Fund 2A and 413-308 Elec Power Dist Fund 2C-AppLab.

413-308 Elec Power Dist Fund 2C-AppLab 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 Elec Power Dist Fund 1A and 413-304 Elec Power Dist Fund 1B and 413-305 Elec Power Dist Fund 1C-AppLab.
Co-requisite(s): 413-306 Elec Power Dist Fund 2A and 413-307 Elec Power Dist Fund 2B.

419-Indust Hydraulics-Pneumatics

419-318 Hydraulic System Operations 2 cr

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): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

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): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

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): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

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 techniques, and surface grinders, principles of numerical control and part programming. Must be in 3rd semester status.

Prerequisite(s): 620-156 Industrial Electronics II.

Course Descriptions

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 cr**
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).

420-305 Machining Applications, Adv **4 cr**
This class requires the student to utilize all manual and CNC machining processes learned to complete a major project(s). The project(s) must involve precision bores, clearance and press fits, the machining of cast iron, and the assembly of numerous mating parts. The format for this class is a self-paced lab with a minimum allowable standard established.
Prerequisite(s): 420-306 CNC Mill Programming and 420-307 CNC Lathe Programming.

420-308 Progressive Machining Technqs **5 cr**
This course prepares students for industry by exposing them to cutting edge manufacturing techniques. This class is intended to allow the student to utilize their knowledge of the machining processes on state-of-the-art machine tools, while challenging the student to develop a mind frame for maximizing resource capability. Concepts covered in this class are lights-out manufacturing, unattended manufacturing, and just-in-time manufacturing along with exposing the student to the business associated with the trade. The course is designed on a project and application basis.
Prerequisite(s): 420-306 CNC Mill Programming and 420-307 CNC Lathe Programming.

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 stu-

dents 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.

420-326 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

Course Descriptions

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 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 or (420-301 Machining Processes, Intro to and 420-302 Machining Processes, Inter).

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.

Prerequisite(s): 421-385 Machine Trades Blueprint Rdg (or taken concurrently). Restricted to students admitted to the following program(s): 32-420-5 Machine Tooling Technics.

420-375 Toolmaking Theory **1 cr**

Toolmaking Theory is a lecture and demonstration course which introduces students to basic toolmaking theories to include; mold and die components and construction principles, jig and fixture making, precision surface grinding, electrical discharge machining (EDM), precision holes, and precision setup and measurement. This course will support shop activities for the fourth semester lab classes in the Machine Tool Technics Program.

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.

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).

Course Descriptions

- 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 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.
- 420-383 Swiss II** **3 cr**
This course will prepare the student for manual and software assisted programming of a Swiss style machine tool. The content will cover G and M codes specific for Swiss programming, synchronized programming techniques for multispindle machines, editing programs, process optimization, and problem solving for Swiss machine tools.
Prerequisite(s): 420-382 Swiss I. Restricted to students admitted to the following program(s): TC-420-1 Advanced Machining - Swiss.
- 420-385 Advanced Machine Concepts** **3 cr**
Development and machining of a part using the computer assist, menu-driven software systems used for short run jobs in a job shop atmosphere. Operation of controls on CNC machine tools equipped with menu-driven software to produce short run jobs.
Prerequisite(s): 420-380 2-D CAM.
- 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): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.
- 442-199 Welding Independent Study** **1 cr**
This course is for skill refinement in pipe and TIG welding.
- 442-301 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): 31-442-1 Welding, 32-457-1 Welding Fabrication.
- 442-304 Metals Technology 2** **1 cr**
Continuation of Metals Technology 1, 442-303, expanding on and covering a variety of technical topics related to the Welding program. Topics will include: welding theory, wire and electrode designations and selection, Welding Procedure Specification (WPS) interpretation, Welder certifications, AWS & ASME code requirements and work standards, etc. Discussion will also take place on issues such as work ethics, job/work attitudes and employer expectations. Restricted to students admitted to the following program(s): 31-442-1 Welding.
Prerequisite(s): 442-303 Metals Technology 1. Restricted to students admitted to the following program(s): 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 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 Po.
- 442-314B Related Welding for Diesel** **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): 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.
- 442-315A Welding for Auto Collision** **2 cr**
The purpose of this course is to help the students acquire basic welding

Course Descriptions

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.

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): 31-442-1 Welding, 32-457-1 Welding Fabrication.

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.

442-360A Robotic Welding A 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 first 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): 442-363 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.

442-360B 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

Course Descriptions

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): 32-457-1 Welding Fabrication, 31-442-1 Welding.

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.

442-370 CNC Welding Processes **1 cr**

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.

Prerequisite(s): 457-380 Layout and Fabrication I/CNC (or taken concurrently). Restricted to students admitted to the following program(s): 31-442-1 Welding.

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.

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 606-160 Mfg. Materials Processes. 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.

Course Descriptions

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): 31-442-1 Welding, 32-457-1 Welding Fabrication.

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): 31-442-1 Welding, 32-457-1 Welding Fabrication.

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.

458-341 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 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).

Course Descriptions

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,

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): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

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): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

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): 10-462-1 Industrial Mechanical Tech, 31-462-2 Industrial Mechanic.

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): 31-462-2 Industrial Mechanic, 10-462-1 Industrial Mechanical Tech.

462-130 Mechanic Print Reading & Schem

1 cr

This course allows the student to learn the symbols used in the mainte-

Course Descriptions

nance 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 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.

462-311 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

Course Descriptions

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 architect's 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 Frming 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 Frming 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 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/Bldng the Envlpe 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 architect's 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 Frming Mthds/Bldng the Envlpe and 475-111 Frming Mthds/Bldng the Envl 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 Frming Mthds/Bldng the Envlpe and 475-111 Frming Mthds/Bldng the Envl 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/Bldng the Envlpe and 475-111 Frming Mthds/Bldng the Envl 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 Construction.

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 475-111 Frming Mthds/

Course Descriptions

Bldg the Envl 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 Frming Mthds/Bldng the Envlpe and 475-111 Frmng Mthds/Bldng the Envl 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 Construction.

475-125 Est Residential Construction **2 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 Frming Mthds/Bldng the Envlpe and 475-111 Frmng Mthds/Bldng the Envl 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.

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 emails, 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): 31-509-1 Medical Assistant, 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.

501-308 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 or 530-153 Medical Terminology I) and 509-301 Medical Asst Admin Procedures 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 509-309 Medical Law, Ethics & Profess and 501-120 Medical Office Computing 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 801-195 Written Communications (or taken concurrently). 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 Barber-Cosmetologist.

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 Barber-Cosmetologist.

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 (or taken concurrently). 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

Course Descriptions

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 Barber-Cosmetologist.

502-311 Hair Styling **2 cr**

This course provides a general knowledge of the skin, hair and 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.

Co-requisite(s): 502-323 Salon Services 3 and 502-330 Facial Services.

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 (or taken concurrently).

Co-requisite(s): 104-301 Salon Marketing and 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 Barber-Cosmetologist.

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 barber/cosmetology services to the public. Product knowledge and retail skills will also be practiced.

Prerequisite(s): 502-301 Haircutting 1 (or taken concurrently). Co-

requisite(s): 502-304 Haircutting 2. Restricted to students admitted to the following program(s): 31-502-1 Barber-Cosmetologist.

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 barber/cosmetology services to the public. Product knowledge and retail skills will also be practiced.

Prerequisite(s): (502-304 Haircutting 2 (or taken concurrently) and 502-321 Salon Services 1 (or taken concurrently)). Co-requisite(s): 104-301 Salon Marketing and 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)). Co-requisite(s): 502-311 Hair Styling and 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 (or taken concurrently). 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.

Co-requisite(s): 502-311 Hair Styling and 502-323 Salon Services 3.

502-350 B/C Instructor License-Theory **2 cr**

This course will provide the theory portion of the B/C instructor licensing curriculum that is required as a first part of the mandated 150 hours by Wisconsin State Board of B/C. This course will provide knowledge in teaching skills, student evaluation and testing methods, classroom management, developing educational aids, and a dynamic program of study. This class will be taught online. All students must show evidence of holding a Wisconsin B/C practitioner license and must provide documentation of 2,000 hours of work experience in the field.

Co-requisite(s): 502-353 B/C Instructor License-Lab.

502-353 B/C Instructor License-Lab **3 cr**

This 108-hour course will provide the lab portion of the two-course requirement designed to fulfill the mandated 150 hours B/C Instructor licensing curriculum by WI State Board of B/C. Students will acquire skills in classroom management, student communications, counseling, recordkeeping, and safety/first aid. Additionally, students will have practical application on the clinic floor in utilizing teaching techniques. All students must show evidence of holding a WI B/C practitioner license and must provide documentation of 2,000 hours of work experience in the field.

Co-requisite(s): 502-350 B/C Instructor License-Theory.

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 and 104-301 Salon

Course Descriptions

Marketing and 502-305 Haircutting 3 and 502-311 Hair Styling and 502-320 Nail Technology and 502-324 Salon Services 4 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 Fire Medic.

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 Fire Medic.

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 Fire Medic.

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 Fire Medic 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 Fire Medic 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 Fire Medic.

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 Fire Medic.

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.

Course Descriptions

504-132 Crash Investigation I

2 cr

This course focuses on collecting data at crash scenes that range from simple to complex. Emphasis is placed on understanding and locating reference points as well as using baseline and triangulation measuring methods to record evidence. Students will master simple measuring basics and receive training on more complicated scenes by adding components of horizontal and vertical curves. Students will be exposed to a wide range of evidence found at crash scenes and learn proper methods of recording the marks left at the scene. At Scene Photography will also be a component of this class. Considerable time will be spent outside on field projects collecting roadway information which will give participants practice on measuring and diagramming scenes, simple and complex, to make detailed scale diagrams possible of a crash or crime scene.

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.

504-166 Field Experience-Crim Justice

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 deci-

sion 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

Course Descriptions

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, 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).

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).

Course Descriptions

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 Communications 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.

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.

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. 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).

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).

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

Course Descriptions

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).

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 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 obtainment 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).

508-301 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.

Course Descriptions

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.

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, record-keeping, 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, TC-509-2 Medical Office Receptionist.

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, TC-509-3 Med Ins & Finance Receptionist.

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): 509-303 Medical Asst Lab Procedures 1 and 501-101

Course Descriptions

Medical Terminology and 509-302 Human Body in Health & Disease and 509-304 Medical Asst Clin Procedures 1. Co-requisite(s): 509-306 Med Asst Clin Procedures 2. Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

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): 509-303 Medical Asst Lab Procedures 1 and 509-304 Medical Asst Clin Procedures 1 and 501-308 Pharmacology for Allied Health (or taken concurrently) and 501-101 Medical Terminology and 509-302 Human Body in Health & Disease. 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, TC-509-3 Med Ins & Finance Receptionist.

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, TC-509-3 Med Ins & Finance 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 Communications (or taken concurrently). Restricted to students admitted to the following program(s): 31-509-1 Medical Assistant.

512-Surgical Tech

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.

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

Course Descriptions

integration of basic health sciences 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 512-332 ST: Clinical 2 (or taken concurrently) and 512-334 ST: Clinical 3 (or taken concurrently) and 512-329 ST: Fundamentals 2 (or taken concurrently).

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 Communications (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.

513-122 Introduction to Blood Bank **2 cr**

This course focuses on basic blood banking concepts and procedures including blood typing and compatibility testing.

Prerequisite(s): 513-110 Basic Lab Skills and 513-113 QA Lab Math and 513-115 Basic Immunology Concepts.

513-123 Advanced Blood Bank **2 cr**

This course consists of advanced blood banking concepts and procedures including work ups for adverse reaction to transfusions and disease states.

Prerequisite(s): 513-122 Introduction to Blood Bank (or taken concurrently).

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.

Course Descriptions

Prerequisite(s): 513-114 Urinalysis and (806-186 Intro to Biochemistry 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.

513-151 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 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 Therapist.

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 (or taken concurrently) and 515-175 Respiratory Clinical 1 and 806-197 Microbiology. Restricted to students admitted to the following program(s): 10-515-1 Respiratory Therapist.

Course Descriptions

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 Therapist.	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.
515-145 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 Therapist.	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 Therapist.
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 Therapist.	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 Therapist.
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).	515-180 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 Therapist.
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.	515-181 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 Therapist.
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 Therapist.	515-182 Respiratory Clinical 4 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 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 Therapist.
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 Therapist.	

Course Descriptions

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 Therapist.

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 Communications (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.

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.

Course Descriptions

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 524-149 PTA Rehab Across the Lifespan 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.
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.

Course Descriptions

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 Practice 6

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 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

Course Descriptions

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 learning management system. The course is designed to help prepare the student sonographer for entry level employment in the work force. Areas of concentration include sonography of the liver, gallbladder/biliary tract, pancreas, kidneys, spleen, retroperitoneum and non-pregnant pelvic sonography both transabdominally and endovaginally. 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 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.

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.

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 (or taken concurrently). 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.

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 learning management system. The course is designed to help prepare the student sonographer for entry level employment in the work force. The learner will concentrate efforts on scanning first, second, and third 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. 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 learning management system. The course is designed to help prepare the student sonographer for entry level employment in the work force. All imaging skills will be at entry level employment by the end of this experience. The student learner will be 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): 526-213 DMS Clinical Experience 2 (or taken concurrently). Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.

526-216 DMS Clinical Experience 4 **2 cr**

Prepares the student to assume the role of a Sonographer. This course enhances the student's scanning and employee skills through clinical practice. Serves as a transition between student and employee. Prerequisite(s): 526-215 DMS Clinical Experience 3 (or taken concurrently). Co-requisite(s): 526-217 Registry Review.

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.

Course Descriptions

526-221 Sonography Physics 1	3 cr	530-150 Applied HIM Technology	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.		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.	
526-222 Sonography Physics 2	2 cr	530-160 Healthcare Informatics	4 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): 526-212 OB/GYN Sonography 2. Restricted to students admitted to the following program(s): 10-526-2 Diagnostic Medical Sonography.		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.	
526-223 Vascular Imaging 1	3 cr	530-161 Health Quality Management	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.		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.	
526-224 Vascular Imaging 2	3 cr	530-176 Health Data Management	2 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.		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.	
526-226 DMS Clinical Experience 2	4 cr	530-177 Healthcare Stats & Research	2 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 third 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.		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-Medical Records		530-178 Healthcare Law & Ethics	2 cr
530-103 Medical Insurance & Billing	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.	
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.		530-181 Intro to the Health Record	1 cr
		Prepares learners to illustrate the flow of health information in various	

Course Descriptions

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) 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 530-190 Healthcare Information Systems (or taken concurrently) and 530-194 HIM Organizational Resources (or taken concurrently) and 530-195 Applied Coding (or taken concurrently).

530-199 ICD Procedure Coding 2 cr

Prepares students to assign ICD procedure codes supported by medical documentation with entry level proficiency. Students apply instructional notations, conventions, rules, and official coding guidelines when assigning ICD procedure codes to case studies and actual medical record documentation.

Prerequisite(s): 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 (see page 220)

531-110 Basic Emerg Medical Technician 4 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 partici-

Course Descriptions

pation, 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 Fire Medic 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 Fire Medic. 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 Fire Medic.

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 Fire Medic 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 Fire Medic 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 Fire Medic 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).

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 Traum.

Course Descriptions

531-166 EMS Operations	3 cr	531-350 First Aid CPR	1 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).		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.	
531-167 Clinical 2-EMT/Paramedic	3 cr	531-351 Paramedic Fundamentals	2 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.		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.	
531-170 Fire Medic Internship	4 cr	531-352 Pharmacology for Emer Medicine	3 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.		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.	
531-181 Critical Care Paramedic	3 cr	531-353 Airway Management	1 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. Restricted to students admitted to the following program(s): 10-531-1 Paramedic Technician.		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.	
531-315 Critical Care Transport	3 cr	531-354 Trauma Care	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.		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).	
531-340 EMT-Intermediate Technician	3 cr	531-355 Cardiovascular Emergencies	4 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.		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).	

Course Descriptions

rently) 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, gastrointestinal, 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, interfacility, 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 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).

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 Serv 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 Serv 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 Serv 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

Course Descriptions

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 3 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 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 2 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 Phar-

Course Descriptions

macy 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.

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 804-140 Basic Algebra. Restricted to students admitted to the following program(s): 31-543-1 Practical Nursing, 10-543-1 Nursing-Assoc 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 fol-

lowing program(s): 10-543-1 Nursing-Assoc 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-Assoc 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-Assoc 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-Assoc 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

Course Descriptions

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-Assoc 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 students admitted to the following program(s): 10-543-1 Nursing-Assoc 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-Assoc 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-Assoc 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-Assoc 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-Assoc 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-Assoc 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

Course Descriptions

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 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).

543-143 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.

543-162 Intro to Geriatric Nursing 3 cr

This lecture course focuses on core nursing values, roles, competencies, and knowledge necessary for providing quality nursing care for the older adult. Students will gain understanding of the health care needs of healthy and frail older adults. Use and adaptation of standard instruments and technical skills, modifications in history taking and physical examination techniques, and identification of specific assessment strategies for common geriatric syndromes and disease states will be emphasized. Understanding of nursing's role as a member of an interdisciplinary team in delivery of older adult caregiver centered care will be discussed. A variety of teacher-learner strategies will be utilized including field opportunities. This course is available to: registered nurses and licensed practical nurses as well as Chippewa Valley Technical College Associate Degree Nursing program students who have successfully completed courses 543-105, 543-106, 543-107 and 543-108.

Prerequisite(s): 543-109 Nsg: Complex Health Alterat 1 (or taken concurrently) and 543-110 Nsg: Mental Health Comm Con (or taken concurrently). Restricted to students admitted to the following program(s): TC-543-4 Geriatric Nursing, 10-543-1 Nursing-Assoc Degree.

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 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.

543-300A Nursing Assistant 3 cr

This course is a combination of classroom and clinical practice conducted in long-term care facilities. It covers basic body function and structure, nutrition, nursing care procedures, and ethical and legal considerations. This course is recognized by the Wisconsin Department of Health and Social Services as a nursing assistant/home health aide training program. Usually runs in eight-week segments.

550-Alcohol & Other Drug Abuse Svcs

550-102 AODA Counseling/Interviewing 3 cr

Introduction and application of basic counseling/communication micro-skills used in individual and group therapy. Miller's Motivational Interviewing is 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 801-196 Oral/Interpersonal Comm and 809-198 Intro to Psychology and 550-108 Substance Use: Risk & Reality.

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

Course Descriptions

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) or 806-189 Basic Anatomy (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 (530-180 Info Mgmt for Prev & Trtmnt or 550-121 Info Mgmt for Prev & Treatment) and 550-122 Pharmacology-Substance Abuse and 809-196 Intro to 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 Communications 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.

550-113 Intro to Prev & Trtmt Profession **3 cr**

Explore the causes and effects of substance use disorders. Outline assessment criteria for clinical identification of these disorders and effective treatment techniques. Differentiate prevention from treatment approaches and resources. Investigate own lifestyles choices. Discover history of the profession, current issues, professional and ethical standards, 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 and adhere to the state substance use disorder counselor code book. 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.

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) or 806-189 Basic Anatomy (or taken concurrently).

550-116 Understanding the Dysfunc Family **3 cr**

Students will study the basic concepts of dysfunction in the family, including the relationship of role functioning, communication, socio-cultural impact, and physical influences on abusive families, addictive behaviors in the family, and chronic illness. Successful intervention and

Course Descriptions

treatment modalities to provide holistic health care for the dysfunctional family will be presented. Recent research findings will be shared and applied in class.

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) or 806-189 Basic Anatomy (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) or 806-189 Basic Anatomy (or taken concurrently).

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

Course Descriptions

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 & Psychometric.

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 & Psychometric. 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 & Refrg Tech, 31-401-1 Refrig. A/C Htg. Service Tech.

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 Design.

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 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 Refrig. A/C Htg. Service Tech., 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 Refrig. A/C Htg. Service Tech.

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.

Course Descriptions

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 Refrig. A/C Htg. Service Tech., 10-601-1 Air Cond, Heating & Refrg Tech.

601-161 HVAC Load Calc & Psychometric

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 Refrig. A/C Htg. Service Tech.

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 (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 Cncpts). Restricted to students admitted to the following program(s): 10-150-2 IT-Network Specialist.

605-128 A+ Review & Advanced Hardware

3 cr

This course provides the learner with an in-depth knowledge and competency in core computer hardware and operating system technologies including installation, configuration, diagnostics, and preventive maintenance. Advanced configuration and computer support issues such as power conditioning, grounding, system backup, RAID, serial ATA, image deployment, and printer/copier maintenance will be investigated. At course completion, students will have acquired the competencies to sit for the A+ certification exams. Course fee includes the cost for a single attempt of the CompTIA A+ Essentials and 220-602, -603, -604

Course Descriptions

certification exams. Prerequisite(s): 605-123 Computer Hardware or 605-109 Industrial Computer Technology.

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 Real Time Data Acquisition **2 cr**

This course will focus on industrial application 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. Prerequisite: Experience in MS Windows and Excel required.

Prerequisite(s): 620-136 PLC Applications.

605-171 Exploring Electromechanical **1 cr**

Geared for high school juniors and seniors who are interested in exploring the careers of electrical engineering technician, electromechanical technician, robotics automation, and programming technology. We'll design a real working Boe-bot. Learn about all the ways to program, maneuver, and navigate your very own robot. You'll learn about infrared sensing, object determination, and light-sensing navigation. In the process you'll be learning all about simple industrial control processes that manufacture the products we use every day. Try your hand at the automated pencil-sharpener or the robotic brochure dispenser. In addition, take tours of industry and learn all about the exciting career world of design, automation, robotics, and problem-solving technology. You'll hear great career information and have fun at the same time.

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 Solid Works 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, machining, electrochemical milling, photochemical etching, laser machining, casting, fabricating, joining, heat treating, and secondary finishing operations. Automation, robotics, and computer integrated technologies are also included with local case studies of industry.

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).

Course Descriptions

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.

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 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.

Course Descriptions

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 nonrectangular 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 Soil Mechanics Surveying.

607-152 Construction Methods

2 cr

This course coordinates information and understanding developed in Construction Concrete and Structural Analysis and expands previ-

ous 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 Soil Mechanics Surveying

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.

607-160 Advanced Structural CAD

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.

Course Descriptions

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).

620-137 Introduction to Controllogix 1 cr

This course is designed to introduce the student to the Allen-Bradley Controllogix system. Topics covered include discrete and analog modules, communications, tags/addressing, basic data structures, and basic task structures. The 1756 platform will be used for hands-on activities in this course. Students should complete a preassessment at <http://plc.cvtelectronics.edu> to determine if they are ready for this course.

620-138 Intermediate Controllogix 1 cr

This course is designed to enhance a student's skills with the Allen-Bradley Controllogix system. Topics covered include labor logic programming, basic function block programming, basic structured text programming, produced/consumed tags, user data structures, and mo-

tion control programming basics. The 1756 platform will be used for hands-on activities in this course. Prerequisite(s): 620-137 Introduction to Controllogix.

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 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,

Course Descriptions

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, contactors 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 & Servo Systems **2 cr**
Theory and application of various types of sensors and Servo/PID control systems. Application, wiring, and configuration of non-contact sensors within automated systems are covered. Theory of servo loops and PID (Proportional, Integral, Derivative) control systems using analog sensors is studied. Prerequisite(s): 620-156 Industrial Electronics II (or taken concurrently).

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.

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 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.

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 Industrial 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): 10-623-1 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

Course Descriptions

improve the quality of manufactured goods; statistical concepts enabling operators and managers to make data based quality and productivity improvement decisions.

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 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 demands. Topics such as productivity skills, problem solving skills, team skills and adaptability skills will be covered. Restricted to students admitted to the following program(s): 32-457-1 Welding Fabrication, 10-623-1 Industrial Engineering Tech.

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, 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, microrscopy 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 Nano Cell Biology 1.

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): 635-101 Intro to Microfabrication and 635-103 Lab Science Instrumentation. Co-requisite(s): 635-117 Nanoscience Manufacturing & QA.

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;

Course Descriptions

wafer terminology, testing, evaluation, and yield factors Prerequisite(s): 635-103 Lab Science Instrumentation and 635-104 Nano Cell Biology 2 and 635-105 Nanomaterials. Co-requisite(s): 635-112 Micro & Nano Fabrication Lab.

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, bioware 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 Tech.

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), 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 Nano Cell Biology 1 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): 635-100 Fundamentals of Nanoscience. Restricted to students admitted to the following program(s): 10-635-1 Nano Engineering Tech, 10-623-1 Industrial Engineering Tech.

635-119 MEMS and Microfluidics 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 electro mechanical 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. Co-requisite(s): 635-119 MEMS and Microfluidics.

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.

801-Communication Skills

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 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.

Course Descriptions

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 asmt Y). Restricted to students admitted to the following program(s): 10-110-1 Paralegal.

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 asmt Y).

801-175 Job-Search Communication

1 cr

Develops the skills necessary for an effective search. Specific areas to be addressed in the course will include resumes, job-search letters, application forms, a professional job portfolio, and employment interviews.

801-195 Written Communication

3 cr

Develops writing skills which include prewriting, 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 asmt 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.

801-198A Speech (Blended Format)

3 cr

This course will utilize a combination of hybrid/online instruction, face-to-face classroom instruction, and synchronous ("real time") Web-conferencing instruction. Students must attend the first scheduled course at the Eau Claire Business Education Center campus. In addition, two face-to-face class meetings are required throughout the semester. Approximately six class meetings will be scheduled via Web-conferencing. Students will use and access Web-conferencing software from an off-campus location. During times without scheduled class sessions, the course will utilize the hybrid/online format of instruction through the use of a learning management system.

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.

801-299 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 Communications

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

Course Descriptions

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-Government

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 asmt 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 asmt 18) or 834-110 Elem Algebra With Apps or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y).

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 asmt 18) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt 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 asmt 19) or 834-110 Elem Algebra With Apps or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt 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 asmt 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

Course Descriptions

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 (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 66 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 66 or ACT Mathematics preentry assmt 22) or (Bachelor's Arts Y or Bachelor's Science Y).

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 66 or ACT Mathematics preentry assmt 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 Refrig. A/C Htg. Service Tech.

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, 31-405-1 Auto Collision Repair, 31-461-2 Motorcycle, Marine & Ou, 31-461-2 Motorcycle, Marine & Outdoor P, 31-404-3 Automotive Maintenance Tech., 31-405-1 Auto Collision Rpr & Ref Tech.

Course Descriptions

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 & Electric 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.

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.

806-130 Intro to Microbiology 1 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 high school or college chemistry or 856-771 with a C or better.
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, neuro-muscular, cardiovascular, and urinary. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance

Course Descriptions

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 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 assmt 19 or ACT Science Reasoning assmt 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, muscular, nervous, and endocrine systems.

Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 or ACT Science Reasoning assmt 21) or 856-774 Intro to Anatomy & Physiology or (Bachelor's Arts Y or Bachelor's Science Y).

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 assmt 19 and 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).

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 assmt 22 and ACT Reading preentry assmt 19 or ACT Science Reasoning assmt 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 affects 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 Barber-Cosmetologist.

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): 804-361 Math 10 or 804-363 Math for Electricity & Electrn.

Course Descriptions

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 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 Race Ethnic & Diversity 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

Course Descriptions

17) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y).

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 asmt 17) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt 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 asmt 17) or 808-110 College Reading or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt 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.

809-251 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 asmt 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 asmt 19) or 808-110 College Reading or (Bachelor's Science Y or Bachelor's Arts Y).

809-291 Princ of Econ-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 asmt 19 or 804-110 Elem Algebra w Apps) and (COMPASS-Reading 80 or ACT Reading preentry asmt 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.

810-201 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.

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 asmt 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 asmt 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 asmt 15 or ACT Science Reasoning asmt 17) or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry asmt Y) or 838-105 Intro Reading & Study Skills.

Course Descriptions

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 .

851-700 AS Writing I 1 BSE cr
This course will prepare students for general studies writing classes and/or reinforce instruction while enrolled in credit classes which require writing. Content includes review of critical grammar, sentence structure, and paragraph organization.

851-711 Basic Spelling Level 1 1 BSE cr
Basic spelling competencies include knowledge of the alphabet, combinations of phonics, sight words, sight/symbol relationships, spelling rules, and word structure.

851-712 Basic Writing Level 1 1 BSE cr
Competencies of Basic Writing include recognition and use of complete sentences, knowledge of basic punctuation, capitalization, and usage rules, and sentence and short paragraph writing.

851-721 Communication Level 1 1 BSE cr
This course emphasizes writing simple notes and messages on familiar situations. Learners show some control of basic grammar and consistent use of punctuation. Learners who successfully complete Communication Level 1 achieve Beginning Basic Education benchmarks according to the NRS guidelines. This course will cover competencies 1-6 in the state communications curriculum.

851-722 Communication Level 2 1 BSE cr
This course emphasizes basic writing tasks related to life roles such as completing medical forms, order forms, and job applications. Learners write short reports and messages to fellow workers. Learners self and peer edit for spelling and punctuation. Learners who successfully complete Communication Level 2 achieve Low Intermediate Education benchmarks according to NRS guidelines. This course will cover competencies 1-6 in the state communications curriculum.

851-723 Communication Level 3 1 BSE cr
This course emphasizes writing simple narrative descriptions and short essays on familiar topics. Learners complete forms such as job applications and strive for consistent use of basic grammar and punctuation. Learners who successfully complete Communication Level 3 achieve High Intermediate Education benchmarks according to NRS guidelines. This course will cover competencies 1-6 in the state communications curriculum.

851-724 Communication Level 4 1 BSE cr
This course emphasizes writing complete compound and complex sentences, personal notes, and letters that accurately reflect thoughts. Learners strive for writing that is organized and cohesive with few mechanical errors. Learners who successfully complete Communication Level 4 achieve Low Adult Secondary Education benchmarks according to NRS guidelines. This course will cover competencies 1-6 in the state communications curriculum.

851-725 Communication Level 5 1 BSE cr
This course emphasizes using varied and complex sentence structure with few mechanical errors. Learner's writing is cohesive with clearly expressed ideas supported by relevant detail. Learners who successfully complete Communication Level 5 achieve High Adult Secondary Education benchmarks according to NRS guidelines. This course will cover competencies 1-6 in the state communications curriculum.

851-726 Communication Level 6 1 BSE cr
This course emphasizes creating written documents including a research paper. Learners express both written and spoken ideas in a clear, concise manner in a variety of settings. Learners who successfully complete Communication Level 6 are prepared to enter postsecondary education and/or obtain and maintain employment. This course will cover competencies 1-6 in the state communications curriculum.

851-741 Pre Voc Spelling Level 2 1 BSE cr
Competencies for Pre Voc Spelling include continuation of basic skills with addition of syllabication, prefix/suffix rules, homonyms/homographs, verification of spelling using technology and dictionary.

851-742 Pre Voc Writing Level 2 1 BSE cr
Competencies for Pre Voc Writing include knowledge of more advanced sentence structure, identifying parts of a paragraph, refinement of knowledge of rules of punctuation, capitalization, usage rules, and writing short paragraphs using appropriate format and resource materials to compose a written document.

851-770 Preparatory Lang Arts Lev 3 1 BSE cr
English, reading, writing, listening, and speaking skills will be taught at a level which will allow students to prepare to enter postsecondary training. Emphasis is placed on interpersonal skills and participation as a team/group member. Coordinated for COMPASS testing program.

851-798 HSED English Level 3 1 BSE cr
Competencies include knowledge of grammar and usage, spelling rules and exceptions, reading comprehension, and interpretive skills, and the ability to organize thoughts, access resource materials, and create a written document.

Course Descriptions

851-799 SS Writing

1 BSE cr

This tutorial course is designed to assist postsecondary students who are enrolled in six or more credits and need help in improving their writing skills.

854-700 AS Algebra I

1 BSE cr

This course is designed to complement basic algebra curriculum and concepts. Students will review operations with fractions, decimals, and signed numbers. They will become proficient in solving linear equations, using formulas, simplifying algebraic expressions, and solving application problems.

854-701 AS Algebra II

1 BSE cr

This course is designed to complement basic algebra curriculum and concepts. Students will learn the basics of factoring, solve quadratic equations by factoring and by using the quadratic formula, simplify rational expressions, solve systems of linear equations, and solve application problems involving powers and roots.

854-702 AS ACT Math I

1 BSE cr

This course is a review of pre-algebra skills. It is intended for those students who would benefit from a mathematics review before taking the COMPASS exam or enrolling in Chemistry or Physics. It is also the first part of a mathematics review for students who are preparing to take the ACT exam. Topics include whole numbers, decimals, fractions, percents, real numbers, statistics, and introduction to equations.

854-702A Pre-Algebra Review

1.6 BSE cr

This course is a review of basic math skills. It is intended for any student who would benefit from a mathematics review. This review could be used as a preparation for the COMPASS exam and Apprenticeship exams. It would be a good way to prepare for enrollment in a formal postsecondary math or science class. It could also be the first part of a mathematics review for students who are preparing to take the ACT exam. Topics include: whole numbers, decimals, fractions, percents, real numbers, statistics, and introduction to equations. COMPASS-Prealgebra 00 or ACT Mathematics preentry assmt 22 .

854-703 AS ACT Math II

1 BSE cr

This course is a review of basic algebra and geometry. It is intended to prepare students for the mathematics part of the ACT exam. Some of the topics included are linear equations, quadratic equations, factoring, systems of equations, graphs of points and lines, exponents and radicals, area and perimeter of geometric figures, angles, parallel and perpendicular lines and inequalities. There will be a practice exam.

854-705 AS-Refresher Math for College

1 BSE cr

This is an eight-week course designed to review basic math and pre-algebra for individuals who are planning to enroll in college. Topics will include whole numbers, fractions, decimals, ratio/proportion, percents, integers, powers/roots, order of operations, and algebraic expressions and equations.

854-705A Calculate With Confidence

1.6 BSE cr

This course is for students who are currently enrolled in Nursing Skills course and need a review in basic math computation and/or calculating medicine dosages.

854-706 AS Financial Literacy

1 BSE cr

Comprehensive guide to financial literacy. Stresses the concepts of bud-

geting, banking, employment, and building personal wealth. Course will provide opportunities for students to develop and apply knowledge and skills to enhance personal and professional success.

854-707 Pre-Algebra

1 BSE cr

This course is intended for students to develop math skills needed to succeed in Elementary Algebra and Intermediate Algebra. Topics include: whole numbers, decimals, fractions, percents, real numbers, statistics, and introduction to equations.

854-711 Basic Math Level 1

1 BSE cr

Competencies for Basic Math include reading and writing whole numbers, understanding the concepts of addition, subtraction, multiplication, and division facts.

854-721 Mathematics Level 1

1 BSE cr

This course develops number concepts, mathematical language, and whole number topics. Participants learn to count, add and subtract three digit numbers, and perform multiplication through 12. Learners identify simple fractions and perform other simple arithmetic operations. Learners achieve Beginning Basic Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-7.

854-722 Mathematics Level 2

1 BSE cr

This course emphasizes the four basic math operations using whole numbers up to three digits. Learners can identify and use all basic mathematical symbols. Learners use critical thinking skills to problem solve, perform computations, estimate results, and apply mathematics to real-world situations. Learners achieve Low Intermediate Basic Education benchmarks according to NRS guidelines. The course covers state curriculum competencies 1-7.

854-723 Mathematics Level 3

1 BSE cr

This course emphasizes the four basic math operations using whole numbers and fractions. Learners can determine the correct operation for solving narrative math problems and can convert fractions to decimals and decimals to fractions. Learners achieve High Intermediate Basic Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-13.

854-724 Mathematics Level 4

1 BSE cr

This course emphasizes all basic math functions and introduces simple algebraic equations. Learners can perform all basic math functions with whole numbers, decimals, and fractions. Learners can interpret and solve simple algebraic equations, tables and graphs, and can develop their own tables and graphs. Learners can use math in business transactions. Learners achieve Low Adult Secondary Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-13.

854-725 Mathematics Level 5

1 BSE cr

This course emphasizes applying mathematical concepts including algebra, geometry, trigonometry, and probability. Learners make mathematical estimates of time and space and apply the principles of geometry to measure angles, lines, and surfaces. Learners achieve High Adult Secondary Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-5.

854-726 Mathematics Level 6

1 BSE cr

This course emphasizes analyzing non-routine problems and arriving at a solution by various means. Learners apply algebraic, geometric, and

Course Descriptions

trigonometric functions to solve problems. This course covers state curriculum competencies 1-15.

854-741 Pre Voc Math Level 2 **1 BSE cr**
Competencies include knowledge of fractions, decimal fractions, ratio/proportions, percents, and pre-algebra.

854-770 Preparatory Math Level 3 **1 BSE cr**
Mathematic skills taught at this level will be beyond the basic arithmetic operations and will prepare students to enter postsecondary training and enroll in appropriate postsecondary math courses.

854-771 Basic Algebra **0 BSE cr**
Designed to develop the algebraic skills that are a prerequisite for entry into associate degree programs. This course is comparable to high school Algebra I. Topics include the following: real numbers, linear equations, rules of exponents; an introduction to operations with polynomials, factoring, rational expressions, rational equations, graphing, systems of equations, and quadratic equations.

854-798 HSED Math Level 3 **1 BSE cr**
Competencies for the GED/HSED Prep Math include improving problem solving with basic skills, knowledge of basic concepts in algebra and geometry, and improving test-taking skills.

854-799 SS Mathematics **1 BSE cr**
This tutorial course is designed to assist postsecondary students who are enrolled in six or more credits and need help in improving their math skills.

856-700 AS Medical Terminology **1 BSE cr**
This course is designed to prepare and support Medical Terminology students. Focuses on a basic understanding of prefixes, roots and suffixes, basic locations and functions of body systems, uses for medical terminology, usable knowledge of learning management system, and support in study groups for success in the credit class.

856-701 AS Chemistry I **1 BSE cr**
This course is designed to complement basic chemistry curriculum and concepts. Students will use basic measurement units and calculate measurement conversions. They will acquire the math skills necessary for chemistry calculations, including using scientific notation and significant digits. By understanding atomic structure and the basics of the periodic table, students will be able to name chemical compounds, write chemical formulas, and project chemical reactions.

856-702 AS Chemistry II **1 BSE cr**
This course is designed to complement basic chemistry curriculum and concepts. Students will balance equations and use stoichiometry to calculate chemical reactants and products. They will identify various types of *chemical reactions, use the gas laws and know the concepts of pH, acidity and alkalinity.*

856-711 Life Science 1 **1 BSE cr**
Basic math concepts will be introduced relating to life science, earth science, and physical science. Emphasis will be placed on helping students to understand how the human body functions.

856-741 Pre-Voc Life Science, Lev 2 **1 BSE cr**
Prevocational science concepts in physical science, earth science, and life science will be taught at an intermediate level. Emphasis will be

placed on assisting students to understand their environment and to improve their understanding of how the human body functions.

856-760 SS Physics **1 BSE cr**
This course is designed for postsecondary students who are enrolled in six or more credits to enhance and/or improve their understanding of Physics. Topics covered will be directly related to the postsecondary course in which the student is enrolled.

856-761 SS Chemistry **1 BSE cr**
This course is designed for postsecondary students who are enrolled in six or more credits to enhance and/or improve their understanding of basic chemistry. Topics covered will be directly related to the postsecondary course in which the student is enrolled.

856-762 SS Biology **1 BSE cr**
This course is designed for postsecondary students who are enrolled in six or more credits to enhance and/or improve their understanding of basic biology. Topics covered will be directly related to the postsecondary course in which the student is enrolled.

856-770 Preparatory Science **1 BSE cr**
Science concepts taught at this level will enable students to enter postsecondary training. Topics covered include life science, biology, physical science, and earth science. Students completing this course will be prepared to enter postsecondary science courses.

856-771 Basic Chemistry Calculations **0 BSE cr**
Designed to develop the skills in chemistry which are a prerequisite for entry into associate program chemistry courses. Coordinated for the COMPASS testing program. This course is not eligible for financial aid.

856-772 Basic Physics **2 BSE cr**
Designed to develop the skills in physics which are a prerequisite for entry into associate program physics courses. Coordinated for the COMPASS testing program. This course is not eligible for financial aid. Prerequisite(s): (COMPASS-Reading 62 or ACT Reading preentry assmt 14) and (COMPASS-Prealgebra 45 or COMPASS-Algebra 35 or ACT Mathematics preentry assmt 18) or ACT Science Reasoning assmt 16 or (Bachelor's Arts Y or Bachelor's Science Y or Assoc Degree preentry assmt Y) or 804-110 Elem Algebra w Apps.

856-773 Biology **0 BSE cr**
Designed to develop the skills in biology which are a prerequisite for entry into associate program biology courses. Coordinated for the COMPASS testing program. This course is not eligible for financial aid.

856-774 Intro to Anatomy & Physiology **2 BSE cr**
Introduces fundamental principles of anatomy and physiology including body orientation, basic terminology, biochemistry, cell biology, histology, and a brief overview of body systems. 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.

856-798 SS Science **1 BSE cr**
This tutorial course is designed to assist postsecondary students who are enrolled in six or more credits and need help in improving their science skills.

Course Descriptions

857-200 Health and Wellness

2 cr

Course credits taken at another accredited technical college, university or community college will be reviewed for transfer to fulfill the health/wellness requirement for the Liberal Arts degree at CVTC. The following are suggested courses that would apply: Nutrition, health & fitness, physical education courses of any type, kinesiology, etc.

858-700 AS-Reading Review for College

1 BSE cr

This class will review basic reading comprehension skills to assist students in preparing for ACT or COMPASS testing, for starting college-level coursework, or to supplement current college courses.

858-710 STAR Reading

1 BSE cr

This course provides an opportunity for adult learners to improve their reading skills in four basic areas: alphabets, fluency, vocabulary, and comprehension. These elements are taught through direct assessment and instruction that keeps the student actively engaged with developing their reading skills.

858-710A STAR Orientation

1 BSE cr

Provides an orientation to the STAR Reading class including discussion of the demands of reading, the components of reading, goal setting for reading improvement, the elements of a reading profile, and individualized reading assessment, and development of an individualized reading improvement profile.

858-710B STAR Alphabets

1 BSE cr

Provides an orientation to the STAR Reading class including discussion of the demands of reading, the components of reading, goal setting for reading improvement, the elements of a reading profile, an individualized reading assessment, and development of an individualized reading improvement profile.

858-710C STAR Vocabulary

1 BSE cr

Provides explicit instruction in vocabulary emphasizing both depth and breadth of understanding for Tier 2 words to enhance receptive vocabulary (listening and reading) and expressive vocabulary (speaking and writing) utilizing a variety of targeted materials at the reading level of 3.0 - 8.0.

858-710D STAR Fluency

1 BSE cr

Provides explicit instruction in fluency including: rate, phrasing, accuracy, rhythm, intonation, and expression utilizing a variety of targeted materials at the reading level of 2.5 - 8.0.

858-710E STAR Comprehension

1 BSE cr

Provides explicit instruction in reading comprehension strategies, including connecting ideas, activating prior knowledge, building knowledge of text structures, recognizing when an idea is missed and fix-up strategies utilizing a variety of targeted materials at the reading level of 3.0 - 8.0.

858-710F STAR Transitions

1 BSE cr

Emphasizes the integration of the components of reading (alphabets, fluency, vocabulary, and comprehension) to improve critical reading skills. Highlights include: strategies for idiomatic expressions, figurative language, bias/propaganda, inferences, relating background knowledge, distinguishing fact from opinion, and identifying main ideas/supporting ideas.

858-711 Basic Reading Level I

1 BSE cr

Competencies include knowledge of sounds and names of letter, vowel sounds, sound-letter relationships, familiar vocabulary study, and some writing output.

858-721 Reading Level 1

1 BSE cr

This course emphasizes reading simple material on familiar subjects and comprehending simple compound sentences in single or linked paragraphs containing a familiar vocabulary. Learners who successfully complete Reading Level 1 achieve Beginning Basic Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-6.

858-722 Reading Level 2

1 BSE cr

This course emphasizes reading text on familiar subjects that have a simple and clear underlying structure. Learners use context to determine meaning and can interpret actions required in specific directions. Learners read simple charts, graphs, labels, payroll stubs, and simple authentic material. Learners who successfully complete Reading Level 2 achieve Low Intermediate Basic Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-6.

858-723 Reading Level 3

1 BSE cr

This course emphasizes reading text on familiar subjects or from which new vocabulary can be determined by context. Learners read simple descriptions and narratives and can make some minimal inferences about familiar texts and compare and contrast information from texts. Learners read authentic materials on familiar topics such as simple employee handbooks. Learners who successfully complete Reading Level 3 achieve High Intermediate Basic Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-5.

858-724 Reading Level 4

1 BSE cr

This course emphasizes comprehension of a variety of materials such as periodicals, non-technical journals on common topics, and expository writing. Learners identify spelling, punctuation, and grammatical errors and follow simple multi-step directions. Learners identify the main idea in reading selections and use context to determine meaning. Learners who successfully complete Reading Level 4 achieve Low Adult Secondary Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-5.

858-725 Reading Level 5

1 BSE cr

This course emphasizes comprehension of a variety of literary works including primary source materials and professional journals. Learners explain and analyze information, use context cues and higher order processes to interpret meaning of written material, and read technical information and complex manuals. Learners who successfully complete Reading Level 5 achieve High Adult Secondary Education benchmarks according to NRS guidelines. This course covers state curriculum competencies 1-5.

858-726 Reading Level 6

1 BSE cr

This course emphasizes adapting strategies and skills to a variety of reading tasks and becoming a critical reader. Learners apply prior experience and knowledge, use study skills, and transfer reading and vocabulary skills to a variety of printed and illustrative materials found in the workplace, school, and everyday life. Learners who successfully complete Reading Level 6 achieve a reading level comparable to the

Course Descriptions

Wisconsin 12th grade exit standards for reading and are prepared to enter postsecondary education and/or obtain and maintain employment. This course covers state curriculum competencies 1-5.

858-741 Pre Voc Reading Level 2 **1 BSE cr**

Competencies include refinement of Basic Reading skills, study of vocabulary, comprehending and critical reading of a wide range of printed materials, applying information from content, and using learning strategies to develop self-directed learning.

858-770 Prep Reading **1 BSE cr**

Reading skills taught at this level will prepare the student to be a critical and strategic reader. Competencies include vocabulary development strategies, comprehending and critical reading.

858-798 SS Reading **1 BSE cr**

Assistance will be provided to vocational students who are enrolled in six or more postsecondary credits. Reading, writing, and speaking assistance will be directly related to the postsecondary courses that the student is enrolled in.

859-711 Basic Citizenship Level I **1 BSE cr**

American Government and Basic Citizenship, state, local, and national government covered, skills needed to become a US citizen are studied.

859-712 Social Science Skills Helpline **1 BSE cr**

Designed to provide students with after hours help in reading in the social science area, including vocabulary development, comprehension of theories & principles, how to get the most value out of a textbook, and note taking skills. Instruction will be available using a computer system called Live Meeting.

859-715 Experienced Based Civics **1 BSE cr**

This course is a complement course for those students involved in Civics instruction in preparation for passing the Civics portion of their High School Equivalency Diploma (HSED) or students enrolled in Adult Basic Education classes. Students will be engaged in field trips and tours of local, state, and federal government offices and events that allow them to see government in action and enhance what they learn in the classroom.

859-741 Pre Voc Citizenship Level 2 **1 BSE cr**

American government, United States history, and basic citizenship. State, local, and national government covered. Skills/competencies needed to become a US citizen are studied.

859-750 AS Pre-College Social Studies **1 BSE cr**

This is a self-contained course that can be accessed via e-stream technology. The course has ten lessons on interesting court cases, people, events, and the contributions of minorities. The curriculum is designed for post GED/HSED, ESL, and non-traditional students returning to school. The lessons include vocabulary, assignments, and a test similar to what one might encounter in a CVTC social studies class. A complete set of test preparation tips is included along with approximately two dozen websites to help complete activities. A comprehensive course guide is available for each center.

859-760 SS Social Sciences **1 BSE cr**

This course will assist students who are enrolled in social sciences courses to gain a better understanding of their course assignments and materials.

859-761 AS-SSC Economics **1 BSE cr**

This course is designed for postsecondary students who are enrolled in six or more credits to enhance and/or improve their understanding of Economics. Topics covered will be directly related to the postsecondary course in which the student is enrolled.

859-770 Preparatory Social Studies **1 BSE cr**

Instruction will be taught in the areas of history, sociology, psychology, geography, and political science. Students will be preparing to enter postsecondary training. Concepts taught will prepare the student to succeed in postsecondary social studies courses.

860-750 SS Computer Literacy **1 BSE cr**

This course is designed to assist enrolled students who have little or no computer skills. Students can get assistance with keyboarding, basic computer usage, learning management system and student email accounts.

860-751 SS Student Success **1 BSE cr**

This course is designed to support students in areas related to college success, such as test taking skills, study skills, organization, and general student success strategies.

860-774 Computer Technology Basic **1 BSE cr**

Basic Skills Education students will enroll in a Basic Computer Technology course designed to offer them an introduction to computer hardware and software. Empty computer competencies such as keyboarding, internet, e-mail, and computer hardware applications will be taught. Students will use computer peripherals such as a mouse and modem. Students will learn how to access various software learning packages and use them in order to improve their academic growth.

860-775 AS-Basic Computer Lit for Coll **1 BSE cr**

Learn how to use a computer for survival in college by doing basic computer functions and Internet research. This course will assist students in learning basic computer literacy skills for college. In addition, this course will investigate how to take the Internet information and apply it to writing reports in college. The purpose of the course is to maximize beginning students' potential by getting them ready to return to school.

862-400 Hotel Rest Mgmt Orientation **.6 BSE cr**

As a retention measure for the Hotel and Restaurant program, Academic Service instructors will conduct a one-day orientation for students. The orientation will include a variety of components including industry math, computer and financial literacy, textbook reading and other study skills, and a tour of the College including the H & R classroom, resource room, kitchen, and Valley Rose Restaurant, as well as the various student service areas on campus. This course is designed to be delivered face-to-face, but an online version will allow students who were unable to attend the face-to-face session access the lessons and benefit from participating online.

862-711 Basic Career Explora Level 1 **1 BSE cr**

Goals for career Exploration Level I include working with students at the beginning level in order to determine abilities, work values, and interests; define occupational categories and sources of job information; be aware of testing and counseling sources; and prepare resumes and job applications as well as be aware of and prepare for job interviews.

Course Descriptions

862-720 Language for Work 1 BSE cr
First in a series which assists students with limited English and limited work experience to become familiar with and develop employer desired workplace behavioral skills. Students are exposed to a number of different entry-level work settings. In addition students learn job-seeking skills and job-keeping skills.

862-740 GED/HSED Preparation 1 BSE cr
This course is designed to help motivate and prepare students to complete their GED or their HSED. It forces students to examine their goals and set up strategies to help them overcome obstacles that may stand between them and their high school credential.

862-741 Pre Voc Career Explora Lvl 2 1 BSE cr
Goals for Career Exploration Level II are similar to those of Career Exploration Level I except they are geared for students who function academically at the intermediate level.

862-742 Success Planning 1 BSE cr
This course was designed to increase a student's retention and academic success by providing a concentrated assessment/planning session. During this session each student's academic levels and career interests/aptitudes will be determined along with a plan that will identify both short- and long-term academic goals that are consistent with assessment results.

862-743 AS Career Explor-Corrections 1 BSE cr
The goals for this course mirror those for levels 1 and 2. In addition, elements which involve those people who are about to be released from jail would be reviewed. These would include examining occupations, interviewing, and resume writing. In addition, How to Deal With Incarcerated Time would be a major area of emphasis.

862-744 AS Online Career Exploration 1 BSE cr
This course is designed to assist students in creating a career profile for themselves and exploring opportunities in education and jobs as a result. Students first complete inventories to determine career cluster interests, skills, and work values. Upon completion of these, students use online resources to explore a variety of relevant career-related information, including the Occupational Outlook Handbook. Guided online activities expose students to a range of resources and ideas they can use for a lifetime of career planning.

862-745 AS Prgm Shadowing Experience 1 BSE cr
This course is designed to provide students with the experience of participating in a college program by attending a normal day of classes in an identified program area. Prior to the actual shadowing experience, each student will develop an interest, aptitude, and work values profile. An Academic Services instructor will arrange the shadowing experience with a faculty person from the selected program. After the shadowing experience, each participant will analyze that program's applicability to his/her career plan. This analysis will include an explanation of the education needed to pursue the selected career, as well as the job outlook and related information for that career.

890-103 Employability Strategies P.S. 1 cr
This 18-hour course, required for the Fire Protection Technician program, is designed to assist students in their job search, employment

securement, and work retention. Focus is placed on interpersonal skill development, including oral and written skills.
Restricted to students admitted to the following program(s): 10-531-2 Fire Medic.

890-General Studies

890-130 Introduction to College Life 2 cr
Students will prepare for a successful transition to CVTC. This course is designed to enhance student development and learning through the examination of career, personal, and academic issues that influence their college experience. Learners will also explore common new-student issues that individuals face at CVTC and develop a personalized success plan.

890-161 College Success Strategies 3 cr
This course is designed to help students increase their success in college in order to reach their educational objectives. The course focuses on developing practical study skills and covers topics such as the college environment, study skills, personal resources, relationships, time management, memory skills, test taking, reading, note taking, diversity, health, and goal setting.

Liberal Arts-Associate of Science

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): (COM-PASS-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.

801-299 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.

Course Descriptions

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.

803-227 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).

804-224 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 66 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 66 or ACT Mathematics preentry assmt 22) or (Bachelor’s Arts Y or Bachelor’s Science Y).

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 66 or ACT Mathematics preentry assmt 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.

806-201 Principles of Biology 4 cr

Explores fundamental principles of ecology, genetics, evolution, organism structure and function. Some lab sections are specially 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 assmt 19 or ACT Science Reasoning assmt 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, muscular, nervous, and endocrine systems.

Prerequisite(s): (COMPASS-Reading 80 or ACT Reading preentry assmt 19 or ACT Science Reasoning assmt 21) or 856-774 Intro to Anatomy & Physiology or (Bachelor’s Arts Y or Bachelor’s Science Y).

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 assmt 19 and 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).

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 strat-

Course Descriptions

egies. 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.

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.

809-251 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 asmt 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 asmt 19) or 808-110 College Reading or (Bachelor's Science Y or Bachelor's Arts Y).

809-291 Princ of Econ-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 asmt 19 or 804-110 Elem Algebra w Apps) and (COMPASS-Reading 80 or ACT Reading preentry asmt 19 or 808-110 College Reading) or Bachelor's Arts Y or Bachelor's Science Y .

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.

857-200 Health and Wellness **2 cr**

Course credits taken at another accredited technical college, university or community college will be reviewed for transfer to fulfill the health/wellness requirement for the Liberal Arts degree at CVTC. The following are suggested courses that would apply: Nutrition, health & fitness, physical education courses of any type, kinesiology, etc.

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.

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 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 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).

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 asmt 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

Course Descriptions

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 .

856-774 Intro to Anatomy & Physiology **2 BSE cr**

Introduces fundamental principles of anatomy and physiology including body orientation, basic terminology, biochemistry, cell biology, histology, and a brief overview of body systems.

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.

Course Descriptions

Continued from Page 185 New Course Numbering Emergency Medical Service

531-Emergency Medical Service

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.

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.

531-913 Patient Assess Princip 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.

531-914 Pre-hospital 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.

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.

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.

531-917 Paramedic Clinical/Field 2 2 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.

531-918 Advanced Emergency Resusci 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.

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.

Course Descriptions

531-920 Paramedic Trauma

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 an acutely injured patient.

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.

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.

531-923 Paramedic Capstone

1cr

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.

531-924 Paramedic Clinical/Field 2

4cr

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.

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	
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.													*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.

2010-2011 Graduate Follow-Up Study

Program #	Program Name	Graduates	Respondents	Employed - Related	Employed - Unrelated Field	Not Looking: Student	Not Looking: Other	Seeking Employment	Average Hourly \$	Average Monthly \$
10-101-1	Accounting	38	21	14	3	2	0	2	14.05	2393.78
10-106-6	Administrative Professional	25	15	10	1	3	0	1	14.17	2465.26
10-006-3	Agriscience Technician*	15	13	12	0	0	0	1	9.79	2340.76
10-601-1	AC, Heating, and Refrigeration Technician	15	9	5	3	1	0	0	15.08	2875.23
10-550-1	Alcohol & Other Drug Abuse	21	11	9	0	0	0	2	12.22	2095.03
31-405-1	Auto Collision Repair/Refinish Technician	12	5	2	2	1	0	0	10.00	2058.18
31-404-3	Automotive Maintenance Technician	14	8	3	0	5	0	0	11.00	1906.52
32-404-2	Automotive Technician	11	7	4	1	1	0	1	9.32	1681.93
31-502-1	Barber-Cosmetologist*	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
10-102-3	Business Management	63	34	17	4	9	2	2	13.43	2397.75
30-534-1	Central Service Technician	7	7	5	1	0	1	0	11.70	2027.84
31-307-1	Child Care Services*	13	11	5	0	5	0	1	9.35	1552.66
10-607-5	Civil Engineering Technician - Structural	17	17	11	0	6	0	0	14.81	2836.00
10-504-1	Criminal Justice - Law Enforcement	56	37	19	12	3	0	3	15.49	2709.36
30-504-1	Criminal Justice - Law Enforcement Academy	57	43	36	5	0	0	2	19.19	3438.09
30-508-2	Dental Assistant	25	18	9	2	4	1	2	14.29	2329.69
10-508-1	Dental Hygienist	13	13	10	1	0	1	1	23.04	3654.24
10-526-2	Diagnostic Medical Sonography	24	16	10	1	0	0	5	26.87	4113.04
32-412-1	Diesel/Heavy Equipment Technician	15	12	12	0	0	0	0	15.12	3120.36
10-307-1	Early Childhood Education	20	17	10	0	3	3	1	11.82	1895.21
31-413-2	Electrical Power Distribution	30	20	14	1	1	0	4	20.64	3967.31
10-620-1	Electromechanical Technology	22	21	21	0	0	0	0	20.21	3859.23
31-531-1	Emergency Medical Technician - Paramedic Adv	4	4	0	0	4	0	0	n/a	n/a
30-090-1	Farm Business and Production Management	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
10-531-2	Fire Medic	9	5	5	0	0	0	0	13.64	2857.37
10-530-1	Health Information Technology	21	21	13	5	0	2	1	13.03	2217.39
10-109-2	Hotel and Restaurant Management	14	3	0	1	1	0	1	n/a	n/a
10-196-4	Human Resources	2	2	0	1	0	0	1	n/a	n/a
31-462-2	Industrial Mechanic	11	11	9	1	1	0	0	19.46	3753.12
10-150-2	IT - Network Specialist	29	24	18	3	1	0	2	15.36	2661.89
10-152-1	IT - Programmer/Analyst	25	17	12	2	0	1	2	19.10	3377.09
10-825-1	Individualized Tech Studies	1	1	0	1	0	0	0	n/a	n/a
10-001-1	Landscape, Plant & Turf Management-Horticulture	7	5	3	0	2	0	0	15.00	2924.78
32-420-5	Machine Tooling Technics	28	19	16	2	0	0	1	17.47	3255.00
10-104-3	Marketing* Management	34	24	12	1	9	1	1	16.02	3045.01
31-509-1	Medical Assistant	32	30	22	1	5	0	2	12.81	2084.48
10-513-1	Medical Laboratory Technician	10	5	4	0	0	0	1	17.30	2699.03
31-461-2	Motorcycle, Marine & Outdoor Power Products	8	7	3	2	2	0	0	12.26	2249.17

2010-2011 Graduate Follow-Up Study, Continued

Program #	Program Name	Graduates	Respondents	Employed - Related	Employed - Unrelated	Not Looking Student	Not Looking Other	Seeking Employment	Average Hourly Wage	Average Monthly Wage
10-635-1	Nano Engineering Technology	2	1	0	0	0	0	1	n/a	n/a
10-543-1	Nursing - Associate Degree	174	137	126	0	5	3	3	25.15	3973.89
10-110-1	Paralegal*	18	17	9	2	4	1	1	13.02	2404.08
10-531-1	Paramedic Technician	7	3	2	0	1	0	0	14.00	3033.10
31-536-1	Pharmacy Technician	11	10	6	3	0	0	1	10.79	1729.73
10-524-1	Physical Therapist Assistant	16	14	12	0	0	1	1	19.01	3171.97
10-526-1	Radiography	21	15	14	0	0	0	1	22.08	3687.22
31-401-1	Refrigeration/AC/Heating Service Technician	16	8	3	1	3	0	1	15.61	3211.84
31-517-1	Renal Dialysis Technician	13	13	8	2	0	0	3	13.29	2112.07
10-515-1	Respiratory Therapist	11	11	11	0	0	0	0	20.78	3286.85
10-196-1	Supervisory Management	11	4	4	0	0	0	0	15.81	2826.20
31-512-1	Surgical Technologist	9	5	5	0	0	0	0	16.89	2830.32
10-499-5	Tech Studies-Journeyworker	6	3	3	0	0	0	0	27.59	4861.11
30-458-1	Truck Driving	71	33	24	2	1	1	5	13.30	3276.13
31-442-1	Welding	20	19	13	3	1	0	2	16.21	3254.90
31-410-2	Wood Technics	23	14	11	1	1	1	0	13.32	2354.99

*Graduates from these programs may receive tips, commissions, live-in provisions, or annual bonuses not reflected in reported salaries.

2010-2011 Graduate Follow-Up Study Summary

Graduates	1,250
Respondents	908
Employed - Related.....	618
Employed - Unrelated.....	75
Not Looking - Student	110
Not Looking - Other.....	45
Seeking Employment.....	60

Employment Overall

Employed	92%
Employed in field related to training	89%

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 60-99	Minimum English ACT 18			#801-195 Written Communication (3 cr.), #801-171 Business English (3cr.), #801-136 English Composition 1 (3 cr.)
COMPASS Writing 35-59	ACT English 17			#831-103 Introduction to College Writing (3 cr.)
COMPASS Writing 0-34	ACT English 16 or below			OR #801-120 Beginning Composition (3 cr.)
SOCIAL SCIENCE COURSES				
COMPASS Reading 75-99	Minimum Reading ACT 17			#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 62-74	Minimum Reading ACT 15			#808-110 College Reading (3 cr.)
COMPASS Reading 40-61	ACT Reading 14			#838-105 Introduction to Reading & Study Skills (3 cr.)
COMPASS Reading 0-39	ACT Reading 13 or below			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 80-99	Minimum Reading ACT 19 OR Minimum Science ACT 19			#806-177 General Anatomy and Physiology (4 cr.)
COMPASS Reading 62-79	Minimum Reading ACT 15 OR Minimum Science ACT 17			#856-774 Intro to A & P (2 BSE cr.) AND #808-110 College Reading (3 cr.)
COMPASS Reading 62-79	Minimum Reading ACT 15			#838-105 Introduction to Reading & Study Skills (3 cr.)
COMPASS Reading 40-61	ACT Reading 14			STAR Reading Course - register in BEC 212 or Academic Services labs at other CVTC campuses
COMPASS Reading 0-39	ACT Reading 13 or below			
				PHYSICAL SCIENCE COURSES
COMPASS Pre-Alg 45-99 AND COMPASS Reading 80-99	Minimum Math & Reading ACT 19 OR Minimum Science ACT 19			#806-134 General Chemistry (4 cr.), #806-186 Introduction to Biochemistry (3 cr.)
COMPASS Pre- Alg 30-44 AND COMPASS Reading 62-79	Minimum Math ACT 17 & Reading ACT 15 OR Minimum Science ACT 17			#836-133 Prep for Basic Chemistry (2 cr.)
COMPASS Reading 40-61 AND/OR COMPASS Pre- Alg 0-29	Math ACT 16 or below AND/OR Reading ACT 14			#838-105 Intro to Reading and Study Skills (3cr.) AND/OR (depending on COMPASS/ACT Reading and Math scores) #834-109 Pre-Algebra (3 cr.)
COMPASS Reading 0-39	ACT Reading 13 or below			STAR Reading Course - register in BEC 212 or Academic Services labs at other CVTC campuses
				MATH COURSES
COMPASS Algebra 35-99	Minimum Math ACT 19			#804-115 College Technical Math 1 (5 cr.), #804-118 Intermediate Algebra with Applications (4 cr.)
COMPASS Algebra 0-34 or Pre- Alg 30-99	Minimum Math ACT 17			#834-110 Elementary Algebra with Applications (3 cr.)
COMPASS Pre- Alg 0-29	ACT Math 16 or below			#834-109 Pre-Algebra (3 cr.)
COMPASS Pre-Alg 45-99	Minimum Math ACT 18			#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 30-44	Minimum Math ACT 17			#834-110 Elementary Algebra with Applications (3 cr.)
COMPASS Pre- Alg 0-29	ACT Math 16 or below			#834-109 Pre-Algebra (3 cr.)
COMPASS Pre-Alg 30-99	Minimum Math ACT 17			#804-123 Math with Business Applications (3 cr.)
COMPASS Pre- Alg 0-29	ACT Math 16 or below			#834-109 Pre-Algebra (3 cr.)

Glossary of Terms

This glossary contains some of the most commonly used terms at Chippewa Valley Technical College.

ACT® – 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® - 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.

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 Email, 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% 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.

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.

Glossary of Terms

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.

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% 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.

Index

.NET-VB/ASP Certificate	127	Environmental Refrig, AC & Htg Srv Tech	56
3D Game/Simulation Programming 1 Certificate	127	Farm Business & Production Management Program	58
3D Game/Simulation Programming 2 Certificate	127	Fees	222
Academic Services/Learning Center	10	FireMedic Program	60
Accounting Program	12	Glossary of Terms	228
Accreditation	1, 8	Graduate Follow-up Study Summary	224
Administrative Professional Program	14	Guaranteed Student Retraining	8
Advanced Machining-Swiss Certificate	130	Health Information Technology Program	62
Affirmative Action Compliance Statement	8	Human Resource Generalist Certificate	125
Agriscience Technician Program	16	Human Resources Program	64
Agriculture (see Agriscience, Farm Business & Production Management)		Hybrid Courses	11
Air Cond, Htg, & Refrig Technology Program	18	IT Network Support Associate Certificate	128
Alcohol & Other Drug Abuse Associate Program	20	Individualized Technical Studies Program	66
Apprenticeships	124	Industrial Engineering Technician Program	68
Associate & Technical Degree Tble of Contents	5	Industrial Mechanic Program	70
Auto Collision Repair & Refinish Technician Program	22	Information Technology-Network Specialist Program	72
Automotive Maintenance Technician Program	24	Information Technology-Programmer/Analyst Program	74
Automotive Technician Program	26	JAVA Certificate	128
Barber-Cosmetologist Program	28	Journeyworker, Technical Studies Program	116
Board Members, Chippewa Valley Tech College	8	Landscape, Plant & Turf Management Program	76
Business Management Program	30	Leadership/Supervision Certificate	125
CAD Operator	130	Library	10
Campus/Center Addresses	1	Liberal Arts - Associate of Science Program	78
Central Service Technician Program	32	Liberal Arts Courses	216
Certificates (see Short-Term Training Certificates)		Machine Tooling Technics Program	80
Child Care Services Program	34	Manufacturing Engineering Technologist Program	82
Chippewa Valley Tech College District Map	8	Marketing Management Certificate	125
Cisco Networking Academy Certificate	128	Marketing Management Program	84
Civil Engineering Technician-Structural Program	36	Medical Assistant Program	86
Civil Rights Act, 1964 (see Compliance Statement)		Medical Laboratory Technician Program	88
CNC Machining Certificate	130	Mission of CVTC	8
College Calendar	3	Mobile Application Development	128
College Overview	8	Motorcycle, Marine & Outdoor Power Products Technician Program	90
College Building and Phone Directory	2	Nano Engineering Technology	92
Compliance Statement	8	Network Hardware Support Specialist	128
Costs	222	North Central Association (NCA)	1
Course Descriptions	131	Nursing-Associate Degree Program	94
Criminal Justice-Law Enforcement Program	38	Nursing Assistant Program	96
Criminal Justice-Law Enforcement Academy Program	40	Online Courses	11
Critical Care Nursing Certificate	127	Paralegal Program	98
Customer Service Representative Certificate	125	Paralegal Post-Baccalaureate Certificate	129
Dairy Farm Operation (see Farm Business & Production Management)		Paramedic Technician Program	100
Database Analysis & Development Certificate	128	Pharmacy Technician Program	102
Dental Assistant Program	42	Physical Therapist Assistant Program	104
Dental Hygienist Program	44	Prepared Learner Courses	218, 226
Diagnostic Medical Sonography Program	46	Professional Selling Certificate	129
Diesel/Heavy Equipment Technician Program (Truck Technician)	48	Programs (Alphabetical Order)	12
Directory, CVTC	2	Purpose of the Catalog	8
Disability Services	10	Radiography Program	106
Districts, CVTC	8	Records & Info Management Specialist Certificate	120
Diversity Services	10	Renal Dialysis Technician Program	108
Early Childhood Education Program	50	Residential Construction Program	110
Electrical Power Distribution Program	52	Respiratory Therapist Program	112
Electromechanical Technology Program	54	Retail Management Certificate	126
Emergency Department Nursing Certificate	127	RISE Courses	9
Emergency Medical Technician	129	Retraining, Guaranteed Student	8
Entertainment, Sports & Event Marking Certificate	125	Short Term Training Certificates	125
		Small Business Accounting Certificate	126

Index

Small Business Marketing Certificate.....	126
Software Specialist Certificate.....	126
Surgical Technologist Program.....	114
Table of Contents.....	4
Table of Contents - Certificates.....	6
Table of Contents - Programs.....	5
Table of Contents -River Falls Campus.....	7
Technical Diploma Table of Contents.....	5
Technical Studies-Journeyworker Program.....	116
Telephone Numbers.....	2
Truck Driving Program.....	118
University Transfer (see Liberal Arts-Associate Degree)	
Vision of CVTC.....	8
Ways of Learning.....	9
Web Conferencing.....	9
Web Development 1 Certificate.....	129
Web Development 2 Certificate.....	129
Web Multimedia Certificate.....	129
Welding Program.....	120
Welding Fabrication Program.....	122
Wood Technics Program (See Residential Construction).....	110



www.cvtc.edu

Chippewa Valley Technical College is an equal opportunity/access employer and educator. For more information, please visit www.cvtc.edu/eo.

CVTC. The right choice.