cvtc.edu

2015-2016 CVTC ACADEMIC CATALOG

CVTC. The right choice.

Chippewa Valley Technical College

VISIT CVTC

A campus visit is an extremely important part of choosing the college that is right for you. Online research can only show you so much, but an in-person visit to CVTC will reveal what pictures and text on a page can't capture.

> **Go to cvtc.edu/visit to plan your CVTC visit.**

CAMPUS LOCATIONS

> **For more information, please contact CVTC's Information Service Center:**
Call: 715-833-6200 • Fax: 715-833-6470 • TDD: 715-833-6254 • Email: TheRightChoice@cvtc.edu

Eau Claire Clairemont Campus

Business Education Center

620 W. Clairemont Avenue
Eau Claire, WI 54701

Diesel Education Center

2710 Arbor Court
Eau Claire, WI 54701

Health Education Center

615 W. Clairemont Avenue
Eau Claire, WI 54701

Eau Claire West Campus

Emergency Service Education Center

3623 Campus Road
Eau Claire, WI 54703

Energy Education Center

4000 Campus Road
Eau Claire, WI 54703

Eau Claire Gateway Campus

Manufacturing Education Center

2320 Alpine Road
Eau Claire, WI 54703

Chippewa Falls Campus

770 Scheidler Road
Chippewa Falls, WI 54729

Menomonie Campus

403 Technology Drive East
Menomonie, WI 54751

Neillsville Center

11 Tiff Avenue
Neillsville, WI 54456

River Falls Campus

500 S. Wasson Lane
River Falls, WI 54022

Chippewa Valley Technical College

2015-2016 College Calendar

2015 Summer	
May 11 – May 29	Interim Period
May 25	Memorial Day Holiday – College Closed
June 1 – July 24	8-Week Summer Session
July 23	Eau Claire Graduation (TBA)
July 3	July 4th Holiday – College Closed
July 27 – August 21	Interim Period

2015-2016 School Year	
August 19 – 20	Instructor In-service
August 21	Non-Contract Day
August 24	Classes Begin (First Semester – 78 days)
September 7	Labor Day Holiday – College Closed
October 16	End of 8 Weeks
November 26 – 27	Thanksgiving Holiday – College Closed
December 14	Last Day of First Semester Classes
December 14	River Falls Graduation (TBA)
December 15	Eau Claire Graduation (TBA)
December 15	Instructor In-service
December 24 – 25	Christmas Holiday – College Closed
December 31 – January 1, 2016	New Year's Holiday – College Closed
January 6 – 7	Instructor In-service
January 8	Non-Contract Day
January 11	Classes Begin (Second Semester – 78 days)
March 4	End of 8 Weeks
March 7 – 11	Spring Break
March 25	Spring Holiday – College Closed
May 5	Last Day of Second Semester Classes
May 5	River Falls Graduation (TBA)
May 6	Eau Claire Graduation (TBA)
May 6	Instructor In-service

2016 Summer	
May 9 – June 3	Interim Period
May 30	Memorial Day Holiday – College Closed
June 6 – July 29	8-Week Summer Session
July 28	Eau Claire Graduation (TBA)
July 4	July 4th Holiday – College Closed
August 1 – August 26	Interim Period

Approved: 7/21/2014

2015-2016
Tuition & Fees Schedule

Tuition is defined as program fees, material fees, parking fees, supplemental fees and other class fees. Other class fees may include books, equipment, field trips, uniforms, graduation and sales tax.

Description of Fee	Cost
Estimated Tuition (WI, MN residents)	$128.40 per credit
Estimated Tuition (Out of State*)	$192.60 per credit
Estimated Tuition (Liberal Arts)	$173.75 per credit
Estimated Tuition (Liberal Arts Out of State)	$260.63 per credit
Application Processing Fee	$30.00
Health Services Fee**	$7.00 - $18.00
Activity Fee***	5.5% of per-credit tuition rate

* *Out-of-state tuition fees do not apply to distance education offerings. International students need to contact the U.S. Citizenship and Immigration Services Designated School Official (DSO) at (715) 833-6343, or send e-mail to: mojobway2@cvtc.edu.*

** *Fees vary based on location and number of credits registered for.*

*** *$7.06 per credit activity fee. In addition, a material fee is established by the Wisconsin Technical College Board for the Collegiate Transfer - Associate of Science (formerly University Transfer).*

CVTC PROGRAM NAME	Estimated Total Cost for Tuition, Tools & Books
Accounting	$13,078.91
Accounting Assistant	$4,819.73
Agriscience Technician	$11,142.10
Air Conditioning, Heating and Refrigeration Technology	$14,809.18
Alcohol and Other Drug Abuse	$12,817.74
Architectural Structural Design	$12,031.48
Auto Collision Repair and Refinish Technician	$10,660.40
Automotive Maintenance Technician	$9,489.72
Automotive Technician	$12,922.94
Business Management	$12,960.74
Central Service Technician	$2,926.54
Child Care Services	$5,759.76
Cosmetology	$8,514.29
Criminal Justice	$12,321.18

CVTC PROGRAM NAME	Estimated Total Cost for Tuition, Tools & Books
Criminal Justice-Law Enforcement 720 Academy	$3,913.54
Dental Assistant	$3,711.36
Dental Hygienist	$15,766.28
Diagnostic Medical Sonography	$12,868.10
Diesel/Heavy Equipment Technician	$15,290.30
Early Childhood Education	$11,887.36
Electrical Power Distribution	$10,237.76
Electrical System Maintenance	$2,402.02
Electromechanical Technology	$12,789.70
Environmental Refrigeration, Air Conditioning & Heating Service Technician	$7,563.17
Executive Assistant	$14,749.27
Farm Business and Production Management	$3,015.56
FireMedic	$12,641.33
Health Information Technology	$12,409.68
Human Resources	$12,609.28
Individualized Technical Studies	$1,862.48 *
Industrial Mechanic	$8,025.04
Industrial Mechanical Technician	$13,342.24
Information Technology - 3D Simulations	$824.97
Information Technology - Database Specialist	$863.76
Information Technology - Java Programmer	$893.76
Information Technology - Microsoft .NET Programmer	$893.76
Information Technology - Mobile Android	$863.76
Information Technology - Mobile Developer	$11,020.78
Information Technology - Mobile iOS	$1,250.64
Information Technology - Network Specialist	$12,470.93
Information Technology - Software Developer	$11,080.78
Information Technology - User Support Technician	$1,250.64
Information Technology - Web Development Specialist	$863.76
Landscape, Plant and Turf Management	$11,580.37
Liberal Arts	$8,195.73
Machine Tooling Technics	$13,140.36
Manufacturing Engineering Technologist	$12,744.04
Marketing Communications	$11,448.16
Mechanical Maintenance	$1,385.64
Medical Assistant	$6,036.18
Medical Laboratory Technician	$12,741.82
Motorcycle, Marine and Outdoor Power Products Technician	$9,688.18
Nano Engineering Technology	$12,133.54
Nursing	$12,642.99

CVTC PROGRAM NAME	Estimated Total Cost for Tuition, Tools & Books
Nursing Assistant	$556.63
Office Assistant	$5,534.75
Office Receptionist	$2,397.82
Organizational Leadership	$8,919.94
Paralegal	$11,585.29
Paramedic Technician	$10,757.00
Pharmacy Technician	$6,167.14
Physical Therapist Assistant	$11,661.87
Radiography	$11,393.89
Renal Dialysis Technician	$4,933.92
Residential Construction	$7,752.54
Respiratory Therapy	$12,276.34
Surgical Technologist	$6,313.74
Technical Studies - Journeyworker	$2,144.40
Truck Driving	$2,860.52
Welding	$9,154.99
Welding Fabrication	$14,193.41

*This total only includes General Education courses. The actual cost will depend upon on program classes chosen.

Program Information

CVTC provides you with hands-on learning and the training and skills you need to move quickly into a fulfilling career, or serve as a platform to launch into unlimited opportunities. Choose from day, evening, and online classes to fit college into your life.

Program Information

Accounting – 10-101-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

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

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

- Set up and maintain accounting records and systems
- Analyze financial records
- Prepare individual and small business tax returns
- Prepare monthly and year-end financial reports
- Calculate, record, and make required payroll deposits and filings

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

START DATE(S): August, January	EFFECTIVE: August 2015

ACCOUNTING

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			***Grade of "C" or better for all prerequisites***
101-111	Accounting I	5	4	
101-106	Accounting Spreadsheets	4	2	101-111 or concurrent
102-160	Business Law	3	3	
801-136	English Composition 1 **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
804-123	Math with Business Applications **OR**	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18-19 hrs.**	**15 cr.**	
	Second Semester			***Grade of "C" or better for all prerequisites***
101-113	Accounting II	5	4	101-111
101-121	Payroll Accounting	3	3	
101-149	Intro to QuickBooks	4	2	101-111 or 101-105
801-196	Oral/Interpersonal Communication	3	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
809-122	Introduction to American Government **OR**	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**18 cr.**	
	Third Semester			***Grade of "C" or better for all prerequisites***
101-116	Intermediate Accounting	5	4	101-113
101-123	Income Tax I	5	4	101-111, or instructor approval
101-125	Cost Accounting	4	3	101-113
101-150	Accounting Software Applications	5	3	101-111
801-198	Speech	3	3	
	Total Hrs./Week and Total Credits	**22 hrs.**	**17 cr.**	
	Fourth Semester			***Grade of "C" or better for all prerequisites***
101-104	Database for Accounting	3	2	101-106
101-118	Managerial Accounting	4	4	101-116, 101-121, 101-123, 101-125
101-131	Accounting Systems	4	3	101-116, 101-150
101-160	Accounting Internship (128 hours)		2	101-116
101-126	Income Tax Preparation **OR**	4	2	Spring only, 101-123
101-133	Accounting for Government & Nonprofit Entities	2		101-113
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**16-18 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 66

Agriscience Technician – 10-006-3

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

- 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!

Program Information

START DATE(S): August	EFFECTIVE: August 2015

AGRISCIENCE TECHNICIAN

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
006-116	Introductory Soils	4	3	
006-123	Agriculture Equipment	4	3	
006-180	Animal Science **OR**	4	3	
006-160	Plant Science ***[1st 8 weeks]***	8		
103-102	Microsoft Office Suite	3	2	
801-195	Written Communication **OR**	3	3	(See Prepared Learner Guide)
801-136	English Composition 1			(See Prepared Learner Guide)
804-107	College Mathematics	3	3	(See Prepared Learner Guide)
	Electives		2	
	Total Credits		**19 cr.**	
	Second Semester			
006-110	Genetics	2	1	
006-138	Principles of Ag. – Products Mktg	4	3	
006-151	Plant Protection Products **OR**	3	2	
006-120	Livestock Computer Applications	4		
007-111	Applied Biotechnology	3	2	
806-134	General Chemistry	5	4	High School Chemistry and Algebra, *or* 836-133 Prep for Chemistry, (See Prepared Learner Guide)
006-161	Weed Identification, ***[2nd 8 weeks]*** **OR**	4	2	
006-188	Feed Analysis	4		
	Elective		3	
	Total Credits		**17 cr.**	
	Third Semester (Summer)			
006-164	Plant Pathology and Entomology **OR**	8	2	
006-184	Herd Health and Sanitation	6		
006-190	Agriscience Internship	36	3	Program student, flexible start
	Total Credits		**5 cr.**	
	Fourth Semester			
006-114	Legal Aspects of Agriscience **OR**	2	2	
802-103	Spanish for the Workplace **OR**	3		
006-168	Row Crop Management	3		
006-122	Agriculture Facilities	3	2	
006-130	Agribusiness Financial Management	2	2	
006-140	Agribusiness Sales	4	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Credits		**12 cr.**	
	Fifth Semester			
006-162	Soil Fertility and Fertilizers **AND**	3	2	
006-166	Computer Applications – Agronomy **OR**	4	2	
006-182	Animal Reproduction **AND**	4	3	
006-186	Managing Youngstock and Dry Cows	2	1	
006-169	Forage Crop Management **OR**	3	2	
006-189	Ration Formulation	3		
801-198	Speech **OR**	3	3	
801-196	Oral/Interpersonal Communication			
809-196	Introduction to Sociology **OR**	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations			(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Air Conditioning, Heating & Refrigeration Technology – 10-601-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

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

The first semester of instruction serves as an introduction to the industry:

- Gas, oil, and electric furnaces
- Basic refrigeration and air conditioning systems
- Principles of ACHR electricity

The rest of your program will focus on specific applications:

- Geothermal systems
- Solar heating
- Print reading
- Load calculations
- Solving technical problems
- CAD
- Air handling system design and installation
- Advanced temperature controls
- Hydronics
- 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!

START DATE(S): August, January	EFFECTIVE: August 2015

AIR CONDITIONING, HEATING AND REFRIGERATION TECHNOLOGY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
601-125	Safety – HVAC	2	1	Program student
601-110	Principles of Heating & Air Flow	8	4	601-141 or concurrent
601-111	Principles of Refrigeration	6	3	601-141 or concurrent
601-116	Principles of Air Conditioning	4	2	601-141 or concurrent
601-141	Electricity-HVAC	6	3	
801-136	English Composition 1	3	3	(Prepared Learner Guide)
804-113	College Technical Math 1A	4	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**33 hrs.**	**19 cr.**	
	Second Semester			
601-114	Plan & Print Reading-HVAC	4	2	
601-130	Sheet Metal Layout	2	1	
601-142	Schematic Wiring-HVAC	4	2	601-141
601-161	HVAC Load Calculations & Psychrometrics	6	3	Program student
601-119	Hydronic/Geothermal Systems Design	6	3	Program student
601-120	Geothermal/Solar Applications	4	2	
804-114	College Technical Math 1B	3	2	804-113
809-199	Psychology of Human Relations	3	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**32 hrs.**	**18 cr.**	
	Third Semester			
601-112	Principles of Air Handling	6	4	601-110, 601-161
601-165	CAD-HVAC	6	3	601-114 or concurrent
601-143	Advanced HVAC Controls	4	3	601-141, 601-142
806-143	College Physics 1	4	3	(804-113, 804-114) or 804-115
809-195	Economics	3	3	
	Total Hrs./Week and Total Credits	**23 hrs.**	**16 cr.**	
	Fourth Semester			
601-113	HVAC Systems Design	6	3	601-112, 601-161; Co-requisite: 601-117
601-117	Drafting HVAC	4	2	601-165; Co-requisite: 601-113
601-118	Sustainability for HVAC	2	1	
601-122	HVACR Industry Skills	2	1	Program student
601-151	Technical Problems-HVAC	6	3	Program student; 601-110, 601-111, 601-116, 601-141
801-197	Technical Reporting	3	3	801-136 or 801-195 with a minimum grade of C
809-197	Contemporary American Society	3	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**26 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 69

Alcohol and Other Drug Abuse – 10-550-1

Associate Degree – Two Years

Offered in Eau Claire ● January entry date

Description

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

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

- Emotional stability, maturity, self-awareness, self-discipline, and personal responsibility
- A minimum of six months free of substance use-related problems
- An interest in working with people and appreciation of cultural diversity
- Strong reading, writing, and abstract thinking skills

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

- 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.

START DATE(S): January	EFFECTIVE: January 2016

ALCOHOL AND OTHER DRUG ABUSE

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
550-108	Substance Use: Risk & Reality (T)	3	3	Spring only
550-113	Introduction to the Prevention and Treatment Profession (T)	3	3	Program student, Spring only
550-114	Ethics and Public Policy (T)	3	3	Program student, Spring only
801-136	English Composition 1 (T) **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1 (T)			(See Liberal Arts Guide)
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
810-201	Fundamentals of Speech (T)			
809-198	Introduction to Psychology (T) **OR**	3	3	(See Prepared Learner Guide)
809-251	General Psychology (T)			(See Liberal Arts Guide)
	Total Credits		**18 cr.**	
	Second Semester (Summer)			
806-177	General Anatomy and Physiology (T, L)	10	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Credits		**4 cr.**	
	Third Semester			
550-102	AODA Counseling/Interviewing (T, L)	4	3	Fall only, 550-108, 550-113, 550-114, 801-196 (or 810-201), 809-198 (or 809-251)
550-110	Theories and Methods of AODA Treatment (T, L)	4	3	Fall only, 550-108, 550-113, 550-114, 801-136 (or 801-219), 809-198 (or 809-251)
550-122	Pharmacology-Substance Abuse (T)	3	3	Fall only, 550-108, 550-113, 550-114; 806-177, 809-198 (or 809-251)
550-154	Culturally Skilled Counseling (T)	3	3	Fall only. 550-108, 550-113, 550-114, 809-198 (or 809-251), (550-102, 550-110 or concurrent)
801-197	Technical Reporting (T)	3	3	801-136 (or 801-219) with a minimum grade of "C"
809-188	Developmental Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**18 cr.**	
	Fourth Semester			
550-104	Internship I (C)	8	2	Spring only, 550-102, 550-110, 550-122, 550-154, 809-188 (550-111 or concurrent)
550-111	Group Facilitation (T, L)	3	2	Spring only, 550-102, 550-110, 550-154, 809-188
550-115	AODA Assessment and Treatment Planning (T, L)	4	3	Spring only, 550-102, 550-110, 550-122, 550-154, 801-197, 809-188 (550-121, 550-160 or concurrent)
550-121	Information Mgmt for Prevention and Treatment (T, L)	3	2	Spring only, 550-102, 550-110, 801-197
550-160	Psychiatric Disease and AODA (T)	3	3	Spring only, 550-102, 550-110, 550-122, 550-154, 809-188
550-161	AODA and Corrections (T)	3	3	Spring only, 550-102, 550-110, 550-122, 550-154, 809-188
809-196	Introduction to Sociology (T) **OR**	3	3	(See Prepared Learner Guide)
809-271	Introductory Sociology (T)			(See Liberal Arts Guide)
	Total Credits		**18 cr.**	
	Fifth Semester			
550-106	Internship Advanced I, (C) ***[weeks 1-8]***	24	3	Fall only, 550-104, 550-111, 550-115, 550-121, 550-122, 550-160, 809-196 (or 809-271), [550-120 or concurrent], Co-requisites: 550-107, 550-150
550-107	Internship, Advanced II, (C) ***[weeks 9-16]***	24	3	Fall only, Co-requisites: 550-106, 550-150
550-120	Family and Community Systems, (T, L)	4	3	Fall only, 550-102, 550-110, 550-111, 809-196 (or 809-271)
550-150	Issues-Internship II Seminar, (T) (48 hours)		3	Fall only, Co-requisites: 550-106, 550-107
	Total Credits		**12 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

Architectural Structural Design – 10-614-7

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

If you enjoy working with computer applications and have an interest in construction, consider the Architectural Structural Design 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!

START DATE(S): August	EFFECTIVE: August 2015

ARCHITECTURAL STRUCTURAL DESIGN

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
614-164	CAD Architecture	5	3	Fall only, Program student
614-100	Drafting Fundamentals/Wood Frame Const.	6	3	Fall only, Program student
614-125	Mechanical Systems	4	3	Fall only, Program student, 614-100 and 614-164 or concurrent
614-140	Structural Analysis	5	4	Fall only, Program student
804-115	College Technical Mathematics 1	5	5	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**25 hrs.**	**18 cr.**	
	Second Semester			
614-111	Architectural Drafting 1	5	3	Spring only, 614-100, 614-140, 614-125 and (606-161 or 614-164); Co-requisite: 614-117
614-117	Revit Architecture	5	3	Spring only, 614-100 and (606-161 or 614-164) , Co-requisite: 614-111
614-123	Construction Steel	5	3	Spring only, 614-100, 614-140, 614-125 and (606-161 or 614-164), and 614-117 or concurrent
614-124	Construction Concrete	4	2	Spring only, 614-100, and (606-161 or 614-164)
801-136	English Composition 1 **OR**	3	3	(See Prepared Learner Guide)
801-195	Written Communication			(See Prepared Learner Guide)
804-116	College Technical Mathematics 2	4	4	804-115 or (804-113 and 804-114)
	Total Hrs./Week and Total Credits	**26 hrs.**	**18 cr.**	
	Third Semester			
614-113	Architectural Drafting 2	5	3	Fall only, 614-111, 614-117, 614-123, 614-124, 614-140; Co-requisite 614-155
614-148	Structural Drafting 1	6	4	Fall only, 614-111, 614-123, 614-124, 804-116
614-152	Construction Methods	4	2	Fall only, 614-140, 614-111, 614-124
614-155	Surveying and Site Planning	6	4	Fall only, 614-111, 804-116; Co-requisite 614-113
806-154	General Physics 1	5	4	804-115 (or 804-114)
	Total Hrs./Week and Total Credits	**26 hrs.**	**17 cr.**	
	Fourth Semester			
614-149	Structural Drafting 2	4	2	Spring only, 614-148
614-151	Technical Problems-Architectural Structural	7	3	Spring only, 614-113, 614-148, 614-152, 614-155
614-160	Model Based Steel Detailing	5	3	Spring only, 614-140, 614-148
801-197	Technical Reporting	3	3	801-136 or 801-195 with a minimum grade of C
809-195	Economics	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**25 hrs.**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

Auto Collision Repair and Refinish Technician – 31-405-1

Technical Diploma – One Year

Offered in Eau Claire ● August and January entry dates

Description

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

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

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

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

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

START DATE(S): August, January	EFFECTIVE: August 2015

AUTO COLLISION REPAIR AND REFINISH TECHNICIAN

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
405-301	Introduction to Auto Collision ***[1 week prior to first semester]***		1	Program student
405-355	Auto Body Basics	20	5	1st 8 weeks, Program student, 405-382, 442-315A or concurrent
405-356	Nonstructural Repair	20	5	2nd 8 weeks, Program student, 405-355 or concurrent
405-382	Paint Technology	3	2	Program student
404-337	Automotive Electricity 1	4	2	Program student
442-315A	Welding for Auto Collision	4	2	Program or pre-program student
	Total Credits		**17 cr.**	
	Second Semester			
405-357	Refinishing	20	5	1st 8 weeks, 405-356
405-358	Structural Repair	20	5	2nd 8 weeks, 405-357 or concurrent
405-375	Estimating and Structural Repair	3	2	Program student, 405-356, 405-382 or instructor approval
801-355	Applied Written/Interpersonal Communication	2	1	
804-360E	Math for Technical Trades – Transportation	3	2	Program or pre-program student
	Total Credits		**15 cr.**	
	Third Semester (Summer)			
405-352	Advanced Collision Repair ***[8 weeks]***	20	5	Program student, 405-358 or concurrent
405-381	Auto Collision Mechanical ***[8 weeks]***	4	1	Summer only, Program student
	Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 38

Automotive Maintenance Technician – 31-404-3

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

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

- Brakes
- Suspension and steering
- Engine performance
- Electrical/electronic systems

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.

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.

Program Information

START DATE(S): August	EFFECTIVE: August 2015

AUTOMOTIVE MAINTENANCE TECHNICIAN
Technical Diploma

Course Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester		
404-335	Automotive Fundamentals ***[2 weeks prior to start of semester-32 hrs.]***	1	Fall only; Program student
404-336	Basic Vehicle Maintenance	3	404-335 or concurrent; Co-requisite: 404-337, 404-339, 404-351
404-337	Automotive Electricity 1	2	Program student
404-339	Automotive Brake Systems	4	404-335 or concurrent; Co-requisite: 404-336, 404-337, 404-351
404-351	Automotive Engine Performance 1	3	404-335 or concurrent; Co-requisite: 404-336, 404-337, 404-339
804-360E	Math for Technical Trades – Transportation	2	Program & pre-program students
	Total Credits	**15 cr.**	
	Second Semester		
404-350	Automotive Steering & Suspension Systems	4	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-338, 404-352, 404-355
404-338	Automotive Electricity 2	3	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-350, 404-352, 404-355
404-352	Automotive Engine Performance 2	3	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-338, 404-350, 404-355
404-355	Automotive Computer Systems	2	404-336, 404-337, 404-339, 404-352; Co-requisite: 404-338, 404-350, 404-352
442-313	Welding - Automotive Technician	1	Program & pre-program students
801-356	Applied Job/Interpersonal Communication	1	
	Total Credits	**14 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 29

Automotive Technician – 32-404-2

Technical Diploma – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

- Engine repair
- Automatic transmission/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!

START DATE(S): August	EFFECTIVE: August 2015

AUTOMOTIVE TECHNICIAN

2-year Technical Diploma

Course Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester		
404-335	Automotive Fundamentals ***[2 weeks prior to start of semester-32 hrs.]***	1	Fall only; Program student
404-336	Basic Vehicle Maintenance	3	404-335 or concurrent; Co-requisite: 404-337, 404-339, 404-351
404-337	Automotive Electricity 1	2	Program student
404-339	Automotive Brake Systems	4	404-335 or concurrent; Co-requisite: 404-336, 404-337, 404-351
404-351	Automotive Engine Performance 1	3	404-335 or concurrent; Co-requisite: 404-336, 404-337, 404-339
804-360E	Math for Technical Trades – Transportation	2	Program & pre-program students
	Total Credits	**15 cr.**	
	Second Semester		
404-350	Automotive Steering & Suspension Systems	4	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-338, 404-352, 404-355
404-338	Automotive Electricity 2	3	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-350, 404-352, 404-355
404-352	Automotive Engine Performance 2	3	404-336, 404-337, 404-339, 404-351; Co-requisite: 404-338, 404-350, 404-355
404-355	Automotive Computer Systems	2	404-336, 404-337, 404-339, 404-352; Co-requisite: 404-338, 404-350, 404-352
442-313	Welding - Automotive Technician	1	Program & pre-program students
801-356	Applied Job/Interpersonal Communication	1	
	Total Credits	**14 cr.**	
	Third Semester		***Grade of "C" or better for all prerequisites**
404-356	Automotive HVAC Systems	3	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-360, 404-361, 404-362
404-360	Automotive Axles & Drive Trains	2	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-361, 404-362
404-361	Manual Transmission & Transaxles	3	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-360, 404-362
404-362	Automatic Transmission & Transaxles	4	404-336, 404-337, 404-338, 404-339, 404-350, 404-351, 404-352, 404-355, Co-requisite: 404-356, 404-360, 404-361
809-351	Occupational Relations	2	
	Total Credits	**14 cr.**	
	Fourth Semester		
404-357	Auto Safety & Security Systems	2	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-363, 404-370, 404-371
404-363	Engine Repair	4	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-370, 404-371
404-370	Advanced Automotive Chassis Systems	3	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-363, 404-371
404-371	Advanced Engine Performance & Alternative Fuels	3	404-356, 404-360, 404-361, 404-362, Co-requisite: 404-357, 404-363, 404-370
806-342	Science for Technical Trades	2	804-360E
	Total Credits	**14 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 57

Business Management – 10-102-3

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

Description

If you're interested in business, enjoy leadership roles, 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.

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!

START DATE(S): August, January	EFFECTIVE: August 2015

BUSINESS MANAGEMENT

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
102-112	Principles of Management	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
116-193	Introduction to Human Resources	3	3	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**17 hrs.**	**17 cr.**	
	Second Semester			
102-113	Business Ethics	3	3	
102-130	Business Management	3	3	
104-104	Professional Selling	3	3	
801-196	Oral/Interpersonal Communication	3	3	
804-123	Math with Business Application **OR**	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18-19 hrs.**	**18 cr.**	
	Third Semester			
101-105	Intro to Accounting **OR**	3	3	
101-111	Accounting 1	5	4	
102-109	Business Analytics	3	3	103-102
102-150	Global Business	3	3	102-112
102-188	Project Management	3	3	102-112, 103-102, 104-102
801-198	Speech	3	3	
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18-20 hrs.**	**18-19 cr.**	
	Fourth Semester			
101-184	Business, Finance and Budgeting	3	2	101-111 or 101-105 with grade of "C" or better
102-114	Managing Operations	3	3	101-184 or concurrent with grade of "C" or better
102-116	Management Decision Making	3	3	102-112, 103-102
102-115	Business Management Internship		1	Program student, Co-requisite: 102-117
102-117	Business Management Capstone	2	2	102-109, 116-193, 102-113, 102-116, 102-130, 102-188; Co-requisite: 102-115
102-132	Leadership for Business Excellence	3	3	102-113, 102-130, 102-188
	Total Hrs./Week and Total Credits	**14 hrs.**	**14 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 67

Central Service Technician – 30-534-1

Technical Diploma – Less Than One Year

Offered in Eau Claire ● January entry date

Description

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 IAHCSMM.

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!

Program Information

START DATE(S): January	EFFECTIVE: January 2016

CENTRAL SERVICE TECHNICIAN

Technical Diploma

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

MINIMUM PROGRAM CREDITS REQUIRED =14

C =Clinical L = Lab T = Theory/Lecture

Child Care Services – 31-307-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

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

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

You may enroll in this program full-time or part-time. If you have related work experience, you could qualify for credit for prior learning. 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!

START DATE(S): August	EFFECTIVE: August 2015

CHILD CARE SERVICES

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
307-148	ECE: Foundations of Early Childhood Education (T)	3	3	Fall only; Program student
307-151	ECE: Infant and Toddler Development(T)	3	3	Fall only; Program student
307-166	ECE: Curriculum Planning (T, L)	4	3	Fall only; Program student
307-167	ECE: Health, Safety, and Nutrition (T, L)	4	3	Fall only; Program student, Co-requisite 307-174
307-174	ECE: Practicum 1(T, C)	9	3	Fall only; Program student, Co-requisite 307-167
801-136	English Composition 1 (T) **OR**	3	3	(Prepared Learner Guide)
801-351	Applied Communication (T)	3	2	
	Total Hrs./Week and Total Credits	**26 hrs.**	**17-18 cr.**	
	Second Semester			
307-178	ECE: Art, Music, and Language Arts (T, L)	4	3	Spring only; Program student
307-179	ECE: Child Development (T)	3	3	Spring only; Program student
307-188	ECE: Guiding Children's Behavior (T)	3	3	Spring only; Program student
307-192	ECE: Practicum 2 (T, C)	9	3	Spring only, Program student, 307-174
809-198	Introduction to Psychology (T) **OR**	3	3	(Prepared Learner Guide)
809-351	Occupational Relations (T)	3	2	
	Total Hrs./Week and Total Credits	**22 hrs.**	**14-15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 31

C =Clinical L = Lab T = Theory/Lecture

Cosmetology – 31-502-1

Technical Diploma – One Year

Offered in Eau Claire ● August and January entry dates

Description

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

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

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

- Basic and specialty haircutting
- Ethnic hair care
- Manicure, pedicure, and nail enhancements
- Facials, makeup artistry, and color analysis
- Hair designing and styling
- Salon sciences
- Salon operations and management
- Retail sales/marketing
- Wisconsin 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 cosmetologist field, you have options!

START DATE(S): August, January	EFFECTIVE: August 2015

COSMETOLOGY

Technical Diploma

Course Number	Course Title	Hrs./Week	Credits	Prerequisite(s)/Comments
	First Semester			***Grade of "C" or better for all prerequisites***
502-301	Haircutting 1 ***[August-October]***	12	3	Program student; Co-requisite: 502-310, 502-320, 806-321
502-310	Chemical Services 1 ***[August-October]***	12	3	Program student; Co-requisite: 502-301, 502-320, 806-321
502-320	Nail Technology ***[August-October]***	8	2	Program student; Co-requisite: 502-301, 502-310, 806-321
806-321	Salon Science	4	2	Program student; Co-requisite: 502-301, 502-310, 502-320
502-304	Haircutting 2 ***[October-December]***	12	3	Program student; 502-301, 502-310, 502-320, 806-321 or concurrent; Co-requisite: 502-321
502-321	Salon Services I ***[October-December]***	16	4	Program student; 502-301, 502-310, 502-320, 806-321 or concurrent; Co-requisite: 502-304
	Total Credits	**32-36 hrs.**	**17 cr.**	
	Second Semester			***Grade of "C" or better for all prerequisites***
502-322	Salon Services 2 ***[January-March]***	16	4	502-301, 502-304, 502-310, 502-320, 502-321, 806-321; Co-requisite: 502-330
502-326	Salon Services Lab ***[January-March]***	8	2	502-301, 502-304, 502-310, 502-320, 502-321, 806-321, (502-314, 502-322, 502-330 or concurrent)
502-330	Facial Services ***[January-March]***	8	2	502-301, 502-304, 502-310, 502-320, 502-321, 806-321; Co-requisite: 502-322
801-356	Applied Job/Interpersonal Skills ***[January-March]***	4	1	
502-314	Chemical Services 2 ***[March-May]***	12	3	502-301, 502-304, 502-310, 502-320, 502-321, 806-321, (502-322, 502-330 or concurrent)
502-311	Hair Styling ***[March-May]***	8	2	502-314, 502-322, 502-326, 502-330 or concurrent; Co-requisite: 502-323
502-323	Salon Services 3 ***[March-May]***	16	4	502-314, 502-322, 502-326, 502-330 or concurrent; Co-requisite: 502-311
	Total Credits	**36 hrs.**	**18 cr.**	
	Third Semester			***Grade of "C" or better for all prerequisites***
502-305	Haircutting 3 ***[June-July]***	8	2	502-314, 502-322, 502-330, (502-311, 502-323, 502-326 or concurrent); Co-requisite: 102-306, 502-324, 502-371
502-324	Salon Services 4 ***[June-July]***	16	4	502-314, 502-322, 502-330, (502-311, 502-323, 502-326 or concurrent); Co-requisite: 102-306, 502-305, 502-371
102-306	Salon Business & Marketing ***[June-July]***	2	1	Co-requisite: 502-305, 502-324, 502-371
502-371	Advanced Salon Operations ***[June-July]***	8	2	****Students registering for the final 8 week courses must have completed all previous courses with a "C" or better.*** Co-requisite: 102-306, 502-305, 502-324
	Total Credits	**34 hrs.**	**9 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 44

Criminal Justice - 10-504-5

Associate Degree – Two Years

Offered in Eau Claire and River Falls ● August entry date

Description

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

- View toward community service
- Motivated and hard-working
- High ethical and moral standards
- Strong written and oral communication skills
- Critical-thinking and problem-solving skills
- Solid decision-making 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 can also begin to provide knowledge and prepare you for other criminal justice positions in working with juveniles, probation and parole or social work positions.

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

As you complete the your Associate's Degree in Criminal Justice you will be getting the best preparation for successful entrance into the 720 hour training required for certification as a law enforcement officer by the Wisconsin Department of Justice-Training and Standards Bureau. You would have to meet criteria and apply for the 720 Hour Law Enforcement Academy once you have obtained 60 college credits in your 4^{th} semester

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 or other career in the criminal justice field.

START DATE(S): August	EFFECTIVE: August 2015

CRIMINAL JUSTICE

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
504-900	Introduction to Criminal Justice	3	3	Fall only
504-901	Constitutional Law	3	3	Fall only
504-170	Introduction to Corrections	3	3	Fall only
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-122	Introduction to American Government	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Second Semester			
504-903	Professional Communications	3	3	Spring only, 504-900, 504-901
504-902	Criminal Law	3	3	Spring only, 504-900, 504-901
504-907	Community Policing Strategies	3	3	Spring only, 504-900, 504-901
801-196	Oral/Interpersonal Communication	3	3	
801-197	Technical Reporting	3	3	801-136 with a C or better
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Credits		**18 cr.**	
	Third Semester			
504-904	Juvenile Law and Justice	3	3	Fall only, 504-900, 504-901, 504-902
504-905	Report Writing	3	3	Fall only, 504-901, 504-902, 801-136, 801-197
504-906	Criminal Investigations I	3	3	Fall only, 504-901, 504-902, 504-903
504-103	Law Enforcement Employment Strategies **OR**	3	3	Program student
504-162	Contemporary Issues in Criminal Justice **OR**	3		Fall only
802-211	Spanish 1	4	4	
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
	Total Credits		**18-19 cr.**	
	Fourth Semester			
504-107	Law Enforcement Crisis Management	3	3	Spring only, Program student, 504-900, 504-901, 504-903, 504-905, 504-907
504-908	Traffic Theory	3	3	Spring only
504-121	Patrol Procedures	3	3	Program student, 504-903, 504-906, 504-907; Co-requisite: 504-908
504-909	Criminal Investigations II	3	3	504-901, 504-902, 504-903, 504-904, 504-905, 504-906
804-107	College Mathematics	3	3	(See Prepared Learner Guide)
504-166	Criminal Justice Internship ***[Summer only]*** **OR**	16	3	Program student, 504-900, 504-901, 504-902, 504-907, 504-170
504-910	LE Academy Prep **OR**	2	2	Program student
809-159	Abnormal Psychology	3	3	809-198 or 809-251
	Total Credits		**17-18 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Criminal Justice-Law Enforcement 720 Academy – 30-504-2

Technical Diploma – Less Than One Year

Offered in Eau Claire ● August and January entry dates

Description

The Criminal Justice-Law Enforcement 720 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 meet one of the following criteria:

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

The 720-hour training program is competency-based and meets the criteria set by the Wisconsin Law Enforcement Standards Board (LESB). 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.

START DATE(S): January	EFFECTIVE: January 2016

CRIMINAL JUSTICE LAW ENFORCEMENT 720 ACADEMY

Technical Diploma

Course Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester		
504-700	Health and Fitness	1	Program student
504-701	Overview of Criminal Justice	1	Program student
504-702	Overview of Patrol Response	2	Program student
504-703	Overview of Tactics	1	Program student
504-704	Overview of Investigations	2	Program student
504-705	Principles of Patrol Response	2	Program student
504-706	Principles of Tactics	3	Program student
504-707	Principles of Emergency Vehicle Response	2	Program student
504-708	Principles of Investigations	2	Program student
504-709	Applications of Traffic Response	2	Program student
504-710	Applications of Investigation	2	Program student
504-711	Functional Fitness for Law Enforcement	1	Program student
504-712	Scenario Preparation – Beginner	1	Program student
504-713	Scenario Preparation – Intermediate	1	Program student
504-182	Scenario Assessment	1	Program student, 504-700, 504-701, 504-702, 504-703, 504-704, 504-705, 504-706, 504-707, 504-708, 504-709, 504-710
	Total Credits	**24 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 24

Dental Assistant – 30-508-2

Technical Diploma – Less Than One Year

Offered in Eau Claire ● August and January entry dates

Description

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

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

- Assist the dentist in dental procedures
- Sterilize and prepare instruments
- Take impressions; prepare models and lab work
- Assist with general office procedures
- Learn radiographic (xray) techniques using digital sensors as well as analog or traditional film-based xrays
- 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 opportunities!

START DATE(S): August, January	EFFECTIVE: August 2015

DENTAL ASSISTANT

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
508-101	Dental Health Safety (L) (32 hours) ***Internet and on-campus lab***		1	Program student; *Must be completed prior to program start (see tip sheet, computer skills are strongly recommended)*
508-302	Dental Chairside (T, L)	10	5	Program student, 508-101 or concurrent, Co-requisites: 508-303, 508-304, 508-305, 508-306, 508-307
508-303	Dental Materials (T, L)	4	2	Program student, 508-101 or concurrent Co-requisites: 508-302, 508-304, 508-305, 508-306, 508-307
508-304	Dental and General Anatomy (T)	3	2	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-305, 508-306, 508-307
508-305	Applied Dental Radiography (L)	4	2	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-304, 508-306, 508-307
508-306	Dental Assistant Clinical (C) ***[2nd 8 weeks]***	10	3	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-304, 508-305, 508-307
508-307	Dental Assistant Professional (T)	2	1	Program student, 508-101 or concurrent, Co-requisites: 508-302, 508-303, 508-304, 508-305, 508-306
	Total Credits		**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 16

C =Clinical L = Lab T = Theory/Lecture

Dental Hygienist – 10-508-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

- Perform oral inspections
- Remove deposits and stains from teeth
- Learn radiographic (xray) techniques using digital sensors as well as analog or traditional film-based xrays.
- 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.

START DATE(S): August	EFFECTIVE: August 2015

DENTAL HYGIENIST

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester (Summer)			
806-177	General Anatomy and Physiology (T, L)	10	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**10 hrs.**	**4 cr.**	
508-101	Dental Health Safety (L) (August, 32 hours) ***Internet and on-campus lab***		1	Program student, ***must be completed prior to program start (See tip sheet, computer skills are strongly recommended)***
	Second Semester			
508-102	Oral Anatomy, Embryology, Histology (T, L)	5	4	Program student, 806-177, 508-101
508-103	Dental Radiography (T, C)	4	2	Program student, 508-101, 508-102 or concurrent
508-105	Dental Hygiene Process 1 (T, C)	8	4	Program student, 508-101, 508-102, 508-103 or concurrent
806-186	Introduction to Biochemistry (T, L)	5	4	Fall only, (See Prepared Learner Guide)
806-197	Microbiology (T, L)	5	4	806-177
	Total Hrs./Week and Total Credits	**27 hrs.**	**19 cr.**	
	Third Semester			
508-106	Dental Hygiene Process 2 (T, C)	10	4	508-102, 508-103, 508-105
508-108	Periodontology (T,L)	3	3	Program student, 508-102, 508-103, 806-186, 806-197, (508-106, 508-111 or concurrent)
508-109	Cariology (T)	1	1	Program student, 806-186, 806-197, (508-106 or concurrent)
508-110	Nutrition and Dental Health (T)	2	2	Program student, 806-186 or concurrent
508-111	General and Oral Pathology (T)	3	3	Program student, 508-102, 508-103, 806-177, (508-106 or concurrent)
801-136	English Composition 1 (T) **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1 (T)			(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**22 hrs.**	**16 cr.**	
	Fourth Semester			
508-112	Dental Hygiene Process 3 (T, C)	13	5	508-106, 508-108, 508-109, 508-110, 508-111
508-113	Dental Materials (T, L)	3	2	508-101, (508-102, 508-103 or concurrent)
508-114	Dental Pharmacology (T)	2	2	806-186, 806-197, 508-106, (508-112 or concurrent)
508-115	Community Dental Health (T)	2	2	508-112 or concurrent
508-119	Dental Hygiene National Board Review (T)		1	Elective - Online only
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**15 cr.**	
	Fifth Semester			
508-107	Dental Hygiene Ethics and Professionalism (T)	1	1	Program student, 508-112; Co-requisite: 508-117
508-116	Dental Pain Management (L)	2	1	508-102, 508-103, 508-112, 508-114
508-117	Dental Hygiene Process 4 (C)	12	4	508-112, 508-113, 508-114, 508-115
508-118	Health Occupations Career (T)	1	1	Elective - Program student, 508-112; Co-requisite: 508-117
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
801-198	Speech (T)			
809-172	Intro to Diversity Studies (T) **OR**	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology (T)			(See Prepared Learner Guide)
809-188	Developmental Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**25 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

Diagnostic Medical Sonography – 10-526-2

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

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.

START DATE(S): August	EFFECTIVE: August 2015

DIAGNOSTIC MEDICAL SONOGRAPHY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
501-101	Medical Terminology (T)	3	3	
526-200	Introduction to DMS (T, L)	4	3	Program student
804-113	College Technical Math 1A (T)	4	3	(See Prepared Learner Guide)
806-154	General Physics 1 (T, L)	5	4	804-114 (waived)
806-177	*General Anatomy & Physiology (T, L) **OR**	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
806-207	*Anatomy & Physiology 1 (T, L)			806-245
	Total Hrs./Week and Total Credits	**21 hrs.**	**17 cr.**	
	Second Semester			
526-221	Sonography Physics 1(T,L)	4	3	Program student, 526-200, 804-113, 806-154; Co-requisite 526-223
526-207	Abdominal Sonography (T, L)	6	4	501-101, 806-177 or 806-207; 806-179 or 806-208 (or concurrent)
526-208	OB/GYN Sonography 1 (T, L)	4	3	501-101, 806-177 or 806-207; 806-179 or 806-208 (or concurrent)
526-210	Cross Sectional Anatomy (T)	2	2	Program student; 526-207, 526-208 or concurrent
526-223	Vascular Imaging 1 (T, L)	4	3	Program student; 526-200; Co-requisite 526-221
806-179	*Advanced Anatomy & Physiology (T, L) **OR**	5	4	806-177
806-208	*Anatomy & Physiology 2 (T, L)			806-207
	Total Hrs./Week and Total Credits	**25 hrs.**	**19 cr.**	
	Third Semester (Summer)			
809-196	Introduction to Sociology (T)	6	3	(See Prepared Learner Guide)
801-136	English Composition 1 (T) **OR**	6	3	(See Prepared Learner Guide)
801-195	Written Communication (T)			(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**12 hrs.**	**6 cr.**	
	Fourth Semester			
526-211	Superficial Sonography (T, L)	3	2	526-207, 526-208; 526-210; Co-requisite 526-222
526-212	OB/GYN Sonography 2 (T, L)	4	3	526-208; Co-requisite 526-203, 526-222
526-222	Sonography Physics 2 (T)	2	2	Program student, 526-221; Co-requisite 526-211, 526-212, 526-224
526-203	Scanning With Proficiency (L) ***[2nd 8 weeks]***	4	1	Program student; Co-requisite 526-212
526-224	Vascular Imaging 2 (T, L)	4	3	Program student, 526-223; Co-requisite 526-222
801-196	Oral/Interpersonal Communication (T)	3	3	
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**17 cr.**	
	Fifth Semester			
526-209	DMS Clinical Experience 1 (C) ***[1st 8 weeks, 320 total hours]***		2	Program student, 526-212; Co-requisite 526-226
526-226	DMS Clinical Experience 2 (C) ***[2nd 8 weeks, 319 total hours]***		4	Program student; Co-requisite 526-209
	Total Hrs./Week and Total Credits		**6 cr.**	
	Sixth Semester (Summer Internship)			
526-215	DMS Clinical Experience 3 (C) ***[11 weeks, 440 total hours]***		4	Program student, 526-226
526-217	Registry Review (T)		1	
	Total Hrs./Week and Total Credits		**5 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

***Anatomy and Physiology Sequence Options**

The program requires one of two sequence options: the sequence of 806-177 General A & P and 806-179 Advanced A & P or, if you plan on transferring to a four-year degree program, the sequence 806-207 A & P I and 806-208 A & P II. Students must follow one of the sequences above.

Diesel/Heavy Equipment Technician – 32-412-1

Technical Diploma – Two Years

Offered in Eau Claire ● August entry date

Description

If you have a talent for working with mechanical systems and good problem-solving skills, the Diesel/Heavy Equipment Technician (Truck 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
- HVAC heating, ventilation, and air conditioning systems

All students graduate from the program with DOT certifications as a 396.25 Brake Inspector and 396.19 Vehicle Inspector.

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!

START DATE(S): August	EFFECTIVE: August 2015

DIESEL/HEAVY EQUIPMENT TECHNICIAN

2-Year Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
412-305	Truck Chassis I (T, L) ***[1st 8 weeks]***	20	5	Program student, Co-requisite: 412-306
412-306	Truck Chassis II (T, L) ***[2nd 8 weeks]***	20	5	Co-requisite: 412-305
412-345	Basic DC Electricity (T, L)	3	2	Program student
442-314B	Related Welding for Diesel (L)	4	2	Program or pre-program student
801-355	Applied Written/Interpersonal Communication (T)	2	1	
	Total Hrs./Week and Total Credits	**29 hrs.**	**15 cr.**	
	Second Semester			
412-307	Chassis Electrical (T, L)	10	5	412-306, Co-requisites: 412-308, 412-309
412-308	Mechanical Gear Trains (T, L)	8	4	412-306, Co-requisites: 412-307, 412-309
412-309	Heavy Duty Truck HVAC & Refrigeration (T, L)	6	3	Program student; 412-306; Co-requisites: 412-307, 412-308
458-306	CDL License Training (T, L)	-	3	Program student
804-360E	Math for Tech Trades-Transportation (T)	3	2	Program or pre-program student
	Total Hrs./Week and Total Credits	**27 hrs.**	**17 cr.**	
	Third Semester			
412-310	Diesel Engine Operation & Tune Up (T, L)	8	4	412-309, Co-requisites: 412-311, 412-312
412-311	Applied Mobile Hydraulics (T, L)	4	2	412-309, Co-requisites: 412-310, 412-312
412-312	Introduction to Electronic Control (T, L)	8	4	412-309, Co-requisites: 412-310, 412-311
412-320	Diesel Equipment Service Management (T)	3	2	
412-350	Mobile Hydraulic Concepts (T) ***[1st 8 weeks]***	4	1	Co-requisite: 412-311
806-342	Science for Technical Trades (T, L)	4	2	804-360E
	Total Hrs./Week and Total Credits	**31 hrs.**	**15 cr.**	
	Fourth Semester			
412-313	Diesel Engine Overhaul (T, L)	10	5	412-312, Co-requisites: 412-314, 412-315
412-314	Electronic Diagnostics (T, L)	8	4	412-312, Co-requisites: 412-313, 412-315
412-315	Preventive Maintenance (L)	2	1	412-312, Co-requisites: 412-313, 412-314
412-380	Diesel Internship (144 hours)	-	2	412-312
442-320A	Advanced Related Welding for Diesel (L)	4	2	Program student, 442-314B
809-351	Occupational Relations (L)	3	2	
	Total Hrs./Week and Total Credits	**27 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 63

C =Clinical L = Lab T = Theory/Lecture

Early Childhood Education – 10-307-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

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

You may enroll in the program full-time or part-time. If you already have experience working in child care or early childhood education, you could qualify for credit for prior learning. 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!

START DATE(S): August	EFFECTIVE: August 2015

EARLY CHILDHOOD EDUCATION

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
Complete 1st and 2nd semesters to graduate with the Child Care Services Technical Diploma (31-307-1)				
	First Semester			
307-148	ECE: Foundations of Early Childhood Education (T)	3	3	Fall only; Program student
307-151	ECE: Infant and Toddler Development (T)	3	3	Fall only; Program student
307-166	ECE: Curriculum Planning (T, L)	4	3	Fall only; Program student
307-167	ECE: Health, Safety, and Nutrition (T, L)	4	3	Fall only; Program student; Co-requisite 307-174
307-174	ECE: Practicum 1	9	3	Fall only, Program student; Co-requisite 307-167
801-136	English Composition 1 (T)	3	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**26 hrs.**	**18 cr.**	
	Second Semester			
307-188	ECE: Guiding Children's Behavior (T)	3	3	Spring only; Program student
307-178	ECE: Art, Music, and Language Arts (T, L)	4	3	Spring only; Program student
307-179	ECE: Child Development (T)	3	3	Spring only; Program student
307-192	ECE: Practicum 2	9	3	Spring only; Program student, 307-174
809-198	Introduction to Psychology (T)	3	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**22 hrs.**	**15 cr.**	
Continue and complete 3rd and 4th semesters to graduate with the Early Childhood Education Associate Degree (10-307-1)				
	Third Semester			
307-194	ECE: Math, Science, and Social Studies (T, L)	4	3	Fall only; Program student
307-195	ECE: Family and Community Relationships (T)	3	3	Fall only; Program student
307-197	ECE: Practicum 3	9	3	Fall only; Program student, 307-192
804-107	College Mathematics (T)	3	3	(Prepared Learner Guide)
809-122	Introduction to American Government	3	3	(Prepared Learner Guide)
809-128	Marriage and Family (T)	3	3	(Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**25 hrs.**	**18 cr.**	
	Fourth Semester			
307-187	ECE: Children with Differing Abilities (T)	3	3	Spring only; Program student
307-198	ECE: Administering an Early Childhood Education Program (T)	3	3	Spring only; Program student
307-199	ECE: Practicum 4	9	3	Spring only; Program student, 307-197
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
801-198	Speech (T)			
809-172	Intro to Diversity Studies (T)	3	3	(Prepared Learner Guide)
	Elective (See suggested electives below)	3	3	
	Total Hrs./Week and Total Credits	**24 hrs.**	**18 cr.**	
	Suggested Electives			
809-188	Developmental Psychology (T)	3	3	(Prepared Learner Guide)
809-195	Economics (T)	3	3	(Prepared Learner Guide)

MINIMUM PROGRAM CREDITS REQUIRED = 69

C =Clinical L = Lab T = Theory/Lecture

Electrical Power Distribution – 31-413-2

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

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

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

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

START DATE(S): August	EFFECTIVE: August 2015

ELECTRICAL POWER DISTRIBUTION

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
413-303	Electricity of EPD 1 (T, L) ***[1st 8 weeks]***	16	4	Program student; Co-requisite: 413-304 and 413-305
413-304	Electricity of EPD 2 (T, L) ***[2nd 8 weeks]***	16	4	Program student; Co-requisite: 413-303 and 413-305
413-305	Basic Line Construction Lab (L)	9	5	Program student; Co-requisite: 413-303 and 413-304
458-306	CDL License Training (T, L)	-	3	Program student
804-363	Math for Electricity and Electronics (T)	3	2	
	Total Credits		**18 cr.**	
	Second Semester			
413-306	EPD Power & Transformers (T, L) ***[1st 8 weeks]***	16	4	413-303, 413-304, 413-305; Co-requisite: 413-307 and 413-308
413-307	Electric Line Apparatus (T, L) ***[2nd 8 weeks]***	16	4	413-303, 413-304, 413-305; Co-requisite: 413-306 and 413-308
413-308	Advanced Line Construction Lab (L)	8	4	413-303, 413-304, 413-305; Co-requisite: 413-306 and 413-307
801-357	Applied Written/Job Seeking Communication (T) ***[1st 8 weeks]***	4	1	
806-342	Science for Technical Trades (T, L)	4	2	804-363
809-351	Occupational Relations (T)	3	2	
	Total Credits		**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 35

C =Clinical L = Lab T = Theory/Lecture

Electromechanical Technology – 10-620-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

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

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

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

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

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

START DATE(S): August, January	EFFECTIVE: August 2015

ELECTROMECHANICAL TECHNOLOGY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
605-107	Basic Electronics	5	3	804-113 or concurrent, or instructor approval
612-101	Related Fluid Power	4	2	
620-101	Automated Processes **OR**	3	2	
625-160	Core Manufacturing Skills	2		Program student
620-155	Industrial Electronics I	3	2	
620-193	Electronic Software Applications	4	2	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
804-113	College Technical Mathematics 1A	4	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**25-26 hrs.**	**17 cr.**	
	Second Semester			
605-108	Devices and Digital	5	3	605-107
605-109	Industrial Computer Technology	5	3	620-193
620-135	PLC Introduction	3	2	620-155 or instructor permission
620-144	Applied EM Machine Principles	4	2	
620-156	Industrial Electronics II	3	2	605-107, 620-155, 620-193
804-114	College Technical Mathematics 1B	3	2	804-113
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**26 hrs.**	**17 cr.**	
	Third Semester			
420-190	Machine Tool Processes	6	3	Program student
606-185	Blueprint Reading **OR**	2	1	
606-161	CAD, Basic	4	3	
620-136	PLC Applications	6	3	620-135
620-145	Industrial Robotic Systems	4	2	620-156
620-158	Sensors	3	2	605-108, 620-156 or concurrent
620-191	Motion Control Applications	5	3	605-108, 620-156
806-154	General Physics I	5	4	804-114 or 804-115
	Total Hrs./Week and Total Credits	**31-33 hrs.**	**18-20 cr.**	
	Fourth Semester			
605-152	SCADA Concepts	4	2	620-136
620-146	Machine Troubleshooting Techniques ***[1st 8 weeks]***	8	2	612-101, 620-136, 620-144, 620-145
620-147	Control Applications ***[2nd 8 weeks]***	8	2	612-101, 620-136, 620-144, 620-145
620-148	EM System Interfacing	8	4	620-136
620-150	Instrumentation	3	2	620-156, 620-193
801-197	Technical Reporting	3	3	801-136 or 801-195 with minimum grade of C
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**29 hrs.**	**18 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

Environmental Refrigeration, Air Conditioning and Heating Service Technician – 31-401-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

If this is how you would describe yourself, you could be a good candidate for the Environmental Refrigeration, Air Conditioning & 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
- HVAC/R technical problem solving
- 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!

START DATE(S): August	EFFECTIVE: August 2015

ENVIRONMENTAL, REFRIGERATION, AIR CONDITIONING AND HEATING SERVICE TECHNICIAN

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
601-125	Safety-HVAC	2	1	Program student
601-110	Principles of Heating & Air Flow	8	4	601-141 or concurrent
601-111	Principles of Refrigeration	6	3	601-141 or concurrent
601-116	Principles of Air Conditioning	4	2	601-141 or concurrent
601-141	Electricity-HVAC	6	3	
804-360B	Math for Technical Trades - Ref-AC-Heat	3	2	
801-355	Applied Written/Interpersonal Communication	2	1	
	Total Hrs./Week and Total Credits	**31 hrs.**	**16 cr.**	
	Second Semester			
601-142	Schematic Wiring-HVAC	4	2	601-141
601-130	Sheet Metal Layout	2	1	
601-121	HVAC/R Service & Applications	6	3	Program student; 601-111, 601-116, 601-141
601-122	HVACR Industry Skills	2	1	Program student
601-151	Technical Problems-HVAC	6	3	Program student; 601-110, 601-111, 601-116, 601-141
601-161	HVAC Load Calculations & Psychrometrics	6	3	Program student
601-120	Geothermal/Solar Applications	4	2	
809-351	Occupational Relations	3	2	
	Total Hrs./Week and Total Credits	**33 hrs.**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 33

Executive Assistant – 10-106-6

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

Description

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

The job of an executive assistant combines organizational and people skills with an expertise in information processing and office technology. Executive assistants 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 executive assistants who are at the center of communications.

The Executive Assistant 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 executive assistant, 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.

Program Information

START DATE(S): August, January	EFFECTIVE: August 2015

EXECUTIVE ASSISTANT
Associate Degree

Course Number	Course Title	Weeks	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester				
106-118	Computer Basics 1	1-4	4	1	
106-150	Office Procedures 1 **AND**	1-4	4	1	
106-165	Office Equipment **OR**	5-8	4	1	
509-130	Medical Office Procedures	9-16	6	2	
106-113	Customer Service 1	5-8	8	1	
106-121	Computer Basics 2	5-8	4	1	106-118 or Concurrent
106-152	Job Search-Business Support Professional 1	9-12	4	1	
106-114	Customer Service 2	9-12	4	1	
103-102	Microsoft Office Suite	9-16	4	2	
106-110	Business Support Professional Practice 1 (64 hours)	9-16	8	1	103-102, 106-113, 106-114, 106-115, 106-151, 106-152 or concurrent
106-115	Customer Service 3	13-16	4	1	
101-105	Accounting, Intro to **OR**	1-8	6	3	
106-162	Legal Terminology **OR**	1-8	6		
501-101	Medical Terminology	1-8	6		
801-196	Oral/Interpersonal Communication	1-8	6	3	
	Total Hrs./Week & Total Credits		**16-28**	**17-18 cr.**	
	Second Semester				
106-107	Publications	1-4	4	1	103-102
106-122	Document Processing	1-4	8	1	103-102
106-128	Business Words at Work 1	1-4	8	1	103-102
106-116	Database	5-8	8	1	103-102
106-124	Spreadsheets 1	5-8	8	1	103-102
106-129	Business Words at Work 2	5-8	4	1	106-128 or concurrent
106-130	Business Words at Work 3	9-12	4	1	106-129 or concurrent
106-160	Office Procedures 2	9-12	4	1	
106-172	Microsoft Outlook	9-12	4	1	
106-135	Business Support Professional Internship 1 (64 hours)	9-16	8	1	(106-172 or concurrent) 106-107, 106-116, 106-122, 106-124, 106-130
106-111	Business Support Professional Practice 2	13-16	4	1	106-110 or concurrent
106-125	Spreadsheets 2	13-16	8	1	106-124 or concurrent
101-149	Intro to QuickBooks **OR**	1-8	8	2	101-105 or 101-111 with C or better
106-182	Legal Computing **OR**	1-8	4		
530-103	Medical Insurance & Billing	1-8	4		
809-198	Intro to Psychology OR	9-16	6	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations				(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits		**24-28**	**17 cr.**	
	Third Semester				
106-100	Web Technologies 1	1-4	4	1	
106-133	Project Planning	1-4	4	1	
106-102	Web Technologies 2	5-8	4	1	
106-158	Meeting & Event Planning	5-8	4	1	106-133 or concurrent
106-156	Records Management	9-12	4	1	
106-167	Office Procedures 3	9-12	4	1	
106-155	Job Search-Business Support Professional 2	13-16	4	1	106-152
106-169	Applied Software	13-16	4	1	106-125, (106-107, 106-116, 106-122, 106-124, 106-130, 106-172 or concurrent)
801-136	English Composition 1	8-16	6	3	
804-123	Math w Business Applications **OR**	1-8	8	3	(See Prepared Learner Guide)
804-189	Introductory Statistics		3		(See Prepared Learner Guide)
809-172	Introduction to Diversity Studies	9-16	6	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits		**16-20**	**17 cr.**	
	Fourth Semester				
106-112	Business Support Professional Practice 3	5-8	4	1	106-111
106-168	Business Support Professional Internship 2 (64 hours)	9-16	8	1	106-102, 106-155, 106-156, 106-158, 106-167, 106-169, (106-100 or concurrent)
101-121	Payroll Accounting	1-8	6	3	
102-112	Principles of Management	1-8	6	3	
116-193	Introduction to Human Resources	1-8	6	3	
801-197	Technical Reporting	9-16	6	3	801-136 with C or better
809-122	Introduction to American Government	9-16	6	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits		**18-22**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Farm Business and Production Management – 30-090-1

Technical Diploma – Six Years, Part-Time

Offered at various locations throughout the district ● August entry date

Description

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

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

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

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

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

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

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

START DATE(S): August	EFFECTIVE: August 2015

FARM BUSINESS AND PRODUCTION MANAGEMENT

Technical Diploma

This program is offered in various locations throughout the district and can be started in the fall.

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

MINIMUM PROGRAM CREDITS REQUIRED = 24

FireMedic – 10-531-2

Associate Degree – Two Years

Offered in Eau Claire ● January entry date

Description

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

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

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

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

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!

START DATE(S): January	EFFECTIVE: January 2016

FIREMEDIC

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
503-105	Principles of Firefighting (L)	6	3	Program student
503-107	Fire Dept. Apparatus Ops (L)	6	3	Program student, 503-105 or concurrent
801-196	Oral/Interpersonal Communication (T)	3	3	
804-107	College Math (T)	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology (T) **OR**	3	3	(See Prepared Learner Guide)
809-251	General Psychology (T)			(See Liberal Arts Placement Guide)
	Total Credits		**15 cr.**	
	Second Semester			
503-106	Fire Inspection Services (L)	4	2	Program student
503-141	Special Rescue (L)	6	3	Program student
531-911	EMS Fundamental (T)	2	2	Program student
531-912	Paramedic Medical Principles (T)	4	4	Program student; 531-911 or concurrent
801-136	English Composition 1 (T) **OR**	3	3	(See Prepared Learner Guide)
801-195	Written Communication (T)			(See Prepared Learner Guide)
809-188	Developmental Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**17 cr.**	
	Third Semester			
531-913	Advanced Patient Assessment Principles (T, L)	4	3	Program student; 531-912 or concurrent
531-914	Advanced Pre-hospital Pharmacology (T, L)	4	3	Program student; 531-913 or concurrent
531-915	Paramedic Respiratory Management (T, L)	3	2	Program student; 531-914 or concurrent
531-916	Paramedic Cardiology (T, L)	5	4	Program student; 531-915 or concurrent
531-917	Paramedic Clinical/Field 1 (192 hours)	12	3	Program student; 531-916 or concurrent
	Total Credits		**15cr.**	
	Fourth Semester (Summer)			
531-919	Paramedic Medical Emergencies (T)	4	4	Program student; 531-917 or concurrent
531-920	Paramedic Trauma (T, L)	4	3	Program student; 531-919 or concurrent
	Total Credits		**7 cr.**	
	Fifth Semester			
531-921	Special Patient Populations (T, L)	4	3	Program student; 531-920 or concurrent
531-922	EMS Operations (T)	1	1	Program student; 531-921 or concurrent
531-924	Paramedic Clinical/Field 2 (265 hours)	16	4	Program student
503-130	FireMedic Internship (C) (432 total hours)	24	2	503-105, 503-106, 503-107, 503-141
809-172	Intro to Diversity Studies (T)	3	3	Online offering; (See Prepared Learner Guide)
809-196	Introduction to Sociology (T)	3	3	Online offering; (See Prepared Learner Guide)
	Total Credits		**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

Health Information Technology – 10-530-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

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

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

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

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

START DATE(S): August, January	EFFECTIVE: August 2015

HEALTH INFORMATION TECHNOLOGY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
501-101	Medical Terminology (T)	3	3	
501-130	Healthcare IT (T, L)	3	2	Program student, Co-requisites: 530-176, 530-181
530-176	Health Data Management (T, L)	3	2	Program student, Co-requisites: 501-130, 530-181
530-181	Introduction to the Health Record (T) ***[Weeks 1-8] [Online Only]***	2	1	Program student, Co-requisites: 501-130, 530-176
530-182	Human Disease for the Health Professions (T) ***[Online only]***	3	3	(501-101 and 806-177 or concurrent)
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**19 hrs.**	**15 cr.**	
	Second Semester			
530-177	Healthcare Stats & Research (T, L)	3	2	Program student, 530-176, (804-123 or 804-133 or 804-230 or concurrent)
530-178	Healthcare Law & Ethics (T, L) ***[Online only]***	3	2	Program Student, 530-176
530-184	CPT Coding (T, L)	4	3	Program student, 501-101, 530-176, 530-181, 530-182, 806-177
530-197	ICD Diagnosis Coding (T, L)	4	3	Program student, 501-101, 530-176, 530-181, 530-182, 806-177
801-136	English Composition 1(T)	3	3	(See Prepared Learner Guide)
804-123	Math with Business Applications (T, L) **OR**	4	3	(See Prepared Learner Guide)
804-133	Math & Logic (T, L) **OR**			(See Prepared Learner Guide)
804-230	Statistics (T)	4	4	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**16-17 cr.**	
	Third Semester (Summer)			
801-196	Oral/Interpersonal Communication (T)	6	3	
809-198	Introduction to Psychology (T)	6	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**12 hrs.**	**6 cr.**	
	Fourth Semester			
530-160	Healthcare Informatics (T, L)	5	4	Program student, 501-130, 530-176
530-185	Healthcare Reimbursement (T, L) ***[Online only]***	3	2	Program student, 530-184, 530-197, (530-199 or concurrent)
530-196	Professional Practice 1 (T, C)	7	3	Program student, 530-178, (530-160, 530-177, 530-185 or concurrent)
530-199	ICD Procedure Coding (T, L)	3	2	Program student, 501-101, 530-176, 530-181, 530-182, 806-177
809-122	Introduction to American Government (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**14 cr.**	
	Fifth Semester			
530-150	Applied HIM Technology (T, L)	4	3	Program student, 530-160
530-161	Health Quality Management (T, L) ***[Online only]***	4	3	Program student, 530-177
530-194	HIM Organizational Resources (T, L) ***[Online only]***	3	2	Program student, 530-196
530-195	Applied Coding (T, L)	3	2	Program student, 530-185
530-198	Professional Practice 2 (T, C)	9	3	Program student, 530-196, (530-150, 530-161, 530-194, 530-195 or concurrent)
809-172	Intro to Diversity Studies (T) **OR**	3	3	Suggest distance learning option, (See Prepared Learner Guide)
809-195	Economics (T) **OR**			Suggest distance learning option, (See Prepared Learner Guide)
809-197	Contemporary American Society (T)			Suggest distance learning option, (See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**26 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 67

C =Clinical L = Lab T = Theory/Lecture

Human Resources – 10-116-1

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

Description

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

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

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

- Recruit and select qualified candidates for available positions
- Understand and apply employment laws
- Organize and promote safety, health, and wellness programs
- Develop and evaluate effective employee training programs
- Administer benefit and payroll programs
- Maintain employee records and documentation
- Administer human resource policies including the performance management system
- Act professionally and ethically in a work setting
- Acquire human and employee relation skills
- Learn the role of HR in the workplace

Graduates pursue careers as HR generalists, recruiters, trainers, payroll administrators and other human resource specialists in private industry, nonprofit organizations, and government agencies.

START DATE(S): August, January	EFFECTIVE: August 2015

HUMAN RESOURCES

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
116-193	Introduction to Human Resources	3	3	
102-112	Principles of Management	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**17 hrs.**	**17 cr.**	
	Second Semester			***Grade of "C" or better for all prerequisites***
104-104	Professional Selling	3	3	
116-114	Recruitment & Selection	3	3	116-193
116-127	Employee Relations	2	2	116-193
801-196	Oral/Interpersonal Communication	3	3	
804-123	Math with Business Application **OR**	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**17-18 hrs.**	**17 cr.**	
	Third Semester			***Grade of "C" or better for all prerequisites***
102-113	Business Ethics	3	3	
116-112	Training & Development	3	3	
116-113	Human Resource Law	3	3	116-193
116-138	Safety, Security and Risk	3	3	
801-198	Speech	3	3	
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18 hrs.**	**18 cr.**	
	Fourth Semester			***Grade of "C" or better for all prerequisites***
101-121	Payroll Accounting	3	3	
116-110	Employee Benefits	3	3	116-193
116-111	Performance Mgt & Employee Rewards System	3	3	
116-115	Human Resources Capstone	2	2	116-127, (116-110, 116-112, 116-113, 116-138 or concurrent); Co-requisite 116-128
116-190	Leadership Development	3	3	
116-128	Human Resources Internship		1	Program student, 116-127, (116-110, 116-112, 116-113, 116-138 or concurrent); Co-requisite 116-115
	Total Hrs./Week and Total Credits	**14 hrs.**	**15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 67

Individualized Technical Studies – 10-825-1

Associate Degree – Two Years

Offered in Eau Claire ● August, January and June entry dates

Description

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

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

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

- Provides the flexibility to meet your educational needs based on your career goals
- Accepts that your goals cannot be achieved through enrollment in any single instructional program offered at CVTC, and allows you to create your own educational program
- Allows you to pursue the Associate of Applied Science Degree full-time 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.

START DATE(S): August, January, June	EFFECTIVE: August 2015

INDIVIDUALIZED TECHNICAL STUDIES

Associate Degree

Course Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester		
	Technical Core Courses	13	
	Choose 6 credits from the following:		
801-136	English Composition 1	3	
801-196	Oral/Interpersonal Communication	3	
801-197	Technical Reporting	3	801-136 with a "C" or better, (See Prepared Learner Guide)
801-198	Speech	3	
	Total Credits	**19 cr.**	
	Second Semester		
	Technical Core Courses	13	
	Choose 3 credits from the following:		
809-122	Intro to American Government	3	(See Prepared Learner Guide)
809-128	Marriage & Family	3	(See Prepared Learner Guide)
809-166	Intro to Ethics: Theory & Application	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies	3	(See Prepared Learner Guide)
809-195	Economics	3	(See Prepared Learner Guide)
809-196	Intro to Sociology	3	(See Prepared Learner Guide)
809-197	Contemporary American Society	3	(See Prepared Learner Guide)
	Total Credits	**16 cr.**	
	Third Semester		
	Technical Core Courses	13	
	Choose 3 credits from the following:		
809-159	Abnormal Psychology	3	
809-188	Developmental Psychology	3	(See Prepared Learner Guide)
809-198	Intro to Psychology	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations	3	(See Prepared Learner Guide)
	Total Credits	**16 cr.**	
	Fourth Semester		
	Technical Core Courses	10	
	Choose 3 credits from the following:		
804-107	College Mathematics	3	(See Prepared Learner Guide)
804-113	College Technical Math 1A	3	(See Prepared Learner Guide)
804-118	Intermediate Algebra with Applications	3	(See Prepared Learner Guide)
804-123	Math with Business Applications	3	(See Prepared Learner Guide)
804-133	Math & Logic	3	(See Prepared Learner Guide)
806-134	General Chemistry	4	(See Prepared Learner Guide)
	Total Credits	**13 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 64

Industrial Mechanic – 31-462-2

Technical Diploma – One Year

Offered in Eau Claire ● June, August, October, January, and March entry dates

Description

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

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

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

- Mechanics
- Electrical
- HVAC
- Pneumatics
- Troubleshooting
- Welding
- Hydraulics
- Programmable Logic Controllers (PLCs)
- Maintenance

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

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

According to the Department of Labor, graduates with broad skills in machine repair and maintenance should have favorable job prospects. Some employers have reported difficulty in recruiting workers with the necessary skills. This could be the career area and educational program you've been searching for!

Program Information

Graduates of the 1 year program simply apply to the program and take only 8 technical credits and 21 general education credits to earn their associate degree. (See program application for details.)

According to the Department of Labor, graduates with broad skills in machine repair and maintenance should have favorable job prospects. Some employers have reported difficulty in recruiting workers with the necessary skills. This could be the career area and educational program you've been searching for!

START DATE(S): June, August, October, January, March	EFFECTIVE: June 2015

INDUSTRIAL MECHANIC

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
419-116	Basic Hydraulics	4	2	Program student or instructor approval
419-117	Basic Pneumatics	4	2	Program student or instructor approval
442-120	Related Welding- Industrial Mechanic	4	2	Program student or instructor approval
462-111	Mechanical Concepts	4	2	Program student or instructor approval
462-115	Industrial PC Applications	4	2	Program student or instructor approval
462-119	Industrial Mechanical Skills	4	2	Program student or instructor approval
462-130	Industrial Mechanic Prints and Documents	2	2	Program student or instructor approval
625-160	Core Manufacturing Skills	2	2	Program student or instructor approval
	Total Credits		**16 cr.**	
	Second Semester			
420-125	Related Machine Tool Concepts	4	2	Program student
462-118	Industrial Electricity Principles	5	3	Program student or instructor approval
462-120	Centrifugal Pumps & Alignment	6	3	Program student, 462-126 or concurrent, or instructor approval
462-121	Repair Automated Manufacturing Equipment	8	4	Program student, 462-118 or concurrent, or instructor approval
462-123	Troubleshooting PLC Systems	6	3	Program student, 462-121 or concurrent, or instructor approval
462-126	Mechanical Alignment & Bearings	4	2	Program student, 462-111, 462-119 or concurrent, or instructor approval
	Total Credits		**17 cr.**	
	Third Semester (**8 weeks**)			
419-102	Hydraulic System Operations	8	2	Program student, 419-116 or instructor approval
419-118	Pneumatic System Operations	8	2	Program student, 419-117 or instructor approval
462-122	Preventative and Periodic Maintenance	4	1	Program student, 462-111 or instructor approval
462-132	Machine Troubleshooting & Repair, Advanced	8	2	Program student, 462-120, 462-123, (419-102, 419-118 or concurrent) or instructor approval
	Total Credits		**7 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 40

Industrial Mechanical Technician – 10-462-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

If you have an interest in working with technology, enjoy troubleshooting systems, earn an associate degree and take pride in craftsmanship, the Industrial Mechanical 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 and to maintain facilities/buildings with automated systems that create the products we use every day.

The Industrial Mechanical program provides you with the skills you need in essential career areas:

- Mechanics
- Electrical
- HVAC
- Centrifugal pumps
- Building maintenance of heating and cooling systems
- Process control
- Fluid handling systems and piping systems
- Pneumatics
- Troubleshooting
- Welding
- Hydraulics
- Programmable Logic Controllers (PLCs)
- Advanced technologies

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

- Laser alignment
- Thermal and vibration analysis
- Mechanical equipment installation, disassembly, and assembly
- Pneumatics and hydraulics
- Conveyance systems
- Machine tool
- Electrical troubleshooting
- Heating, ventilating, and air conditioning systems
- Welding
- Preventative maintenance
- Process pumping and piping systems
- Automated machine troubleshooting
- Programmable Logic Controllers (PLCs)

Program Information

Graduates of the 1 year program simply apply to the program and take only 8 technical credits and 21 general education credits to earn their associate degree. (See program application for details.)

According to the Department of Labor, graduates with broad skills in machine repair and maintenance should have favorable job prospects. Some employers have reported difficulty in recruiting workers with the necessary skills. This could be the career area and educational program you've been searching for!

START DATE(S): August, January	EFFECTIVE: August 2015

INDUSTRIAL MECHANICAL TECHNICIAN

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
419-116	Basic Hydraulics	4	2	Program student or instructor approval
419-117	Basic Pneumatics	4	2	Program student or instructor approval
442-120	Related Welding- Industrial Mechanic	4	2	Program student or instructor approval
462-111	Mechanical Concepts	4	2	Program student or instructor approval
462-115	Industrial PC Applications	4	2	Program student or instructor approval
462-119	Industrial Mechanical Skills	4	2	Program student or instructor approval
462-130	Industrial Mechanic Prints and Documents	2	2	Program student or instructor approval
625-160	Core Manufacturing Skills	2	2	Program student or instructor approval
	Total Credits		**16 cr.**	
	Second Semester			
420-125	Related Machine Tool Concepts	4	2	Program student
462-118	Industrial Electricity Principles	5	3	Program student or instructor approval
462-120	Centrifugal Pumps & Alignment	6	3	Program student, 462-126 or concurrent, or instructor approval
462-121	Repair Automated Manufacturing Equipment	8	4	Program student, 462-118 or concurrent, or instructor approval
462-123	Troubleshooting PLC Systems	6	3	Program student, 462-121 or concurrent, or instructor approval
462-126	Mechanical Alignment & Bearings	4	2	Program student, 462-111, 462-119 or concurrent, or instructor approval
	Total Credits		**17 cr.**	
	Third Semester (8 weeks)			
419-102	Hydraulic System Operations	8	2	Program student, 419-116, or instructor approval
419-118	Pneumatic System Operations	8	2	Program student, 419-117, or instructor approval
462-122	Preventative and Periodic Maintenance	4	1	Program student, 462-111, or instructor approval
462-132	Machine Troubleshooting & Repair, Advanced	8	2	Program student, 462-120, 462-123, (419-102, 419-118 or concurrent) or instructor approval
	Total Credits		**7 cr.**	
	Fourth Semester			
462-140	Piping Systems	4	2	Program student, 462-120, or instructor approval
462-150	Building System Maintenance	4	2	Program student, 462-123, or instructor approval
801-195	Written Communication	3	3	(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication	3	3	(See Prepared Learner Guide)
804-123	Math w/ Business Applications	4	3	(See Prepared Learner Guide)
809-197	Contemporary American Society	3	3	(See Prepared Learner Guide)
	Total Credits		**16 cr.**	
	Fifth Semester			
462-141	Process Control Systems	4	2	Program student, 462-120, 462-123, 462-140, or instructor approval
462-151	New Technologies in Industrial Maintenance	4	2	Program student, 462-120, 462-123, 462-150, or instructor approval
801-197	Technical Reporting	3	3	801-195 with a C or better
809-195	Economics	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
	Total Credits		**13 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 69

Information Technology - Mobile Developer – 10-152-8

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 (3D Modeling and Game Simulation offered in Eau Claire only)

Description

If you enjoy working with mobile devices and are interested in the design and development of mobile applications, games, or utilities, the Information Technology Mobile Developer program could be just what you're looking for. It will benefit those who wish to distinguish themselves across a wide range of technical disciplines within the rapidly expanding field of mobile application development.

You'll receive hands-on learning with individual and team projects that will include:

- Developing the skills required to create applications for iPhones, iPads, and Android based phones and tablets
- Scratch building applications using best practice principles including object oriented design and test driven development
- Understanding the relationship between the mobile market, cloud computing and social networking platforms
- Developing valuable workplace skills: time management, collaboration, communication, critical thinking, and environmental awareness
- Business Campus students have the option of taking courses in 3D simulation utilizing the latest game engines and 3D modeling software

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

- MCTS (Microsoft Certified Technology Specialist)
- OCPJP (Oracle Certified Professional Java Programmer)
- CompTIA MAS+ (CompTIA Mobile App + Security (Android) or (IOS))
- MCSD (Microsoft Certified Software Developer)

Mobile application development is currently one of the fastest growing fields in Information Technology. The rapid adoption of smart phones worldwide has resulted in a significant increase in demand for mobile application developers. The Information Technology Mobile Developer program could be what you need to turn your interest in mobile computing into a lifelong career.

START DATE(S): August, January	EFFECTIVE: August 2015

INFORMATION TECHNOLOGY – MOBILE DEVELOPER

Associate Degree

Course Number	Course Title	Hours/ Week	Credits	Prerequisite(s)/Comments
	First Semester			
152-102	IT-Software Developer Exploration [***1st 8 weeks]***	4	1	
152-106	Operating Systems ***[1st 8 weeks]***	6	2	Program student
152-107	Web 1 - HTML and CSS ***[1st 8 weeks]***	8	3	Program student
152-101	Programming Fundamentals ***[2nd 8 weeks]***	8	3	Program student
152-132	Database 1 ***[2nd 8 weeks]***	8	3	Program student
804-133	Math and Logic	4	3	(See Prepared Learner Guide)
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits	**25 hrs.**	**18 cr.**	
	Second Semester			
152-103	.NET Application Development ***[1st 8 weeks]***	8	3	152-101
152-142	OO Analysis & Design-Java ***[1st 8 weeks]***	8	3	152-101
152-108	Web 2 - JavaScript ***[2nd 8 weeks]***	8	3	152-101, 152-107
152-114	Objective C Programming - Cocoa ***[2nd 8 weeks]***	8	3	152-142 or concurrent
152-129	Java Web Programming ***[2nd 8 weeks]***	8	3	152-142 or concurrent
804-189	Introductory Statistics	4	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits	**28 hrs.**	**18 cr.**	
	Third Semester			
152-161	3D Modeling 1 ***[1st 8 weeks]*** **OR**	8	3	152-142
152-136	Database 2 ***[1st 8 weeks]***			152-132
152-115	Mobile Application Development I - IOS ***[1st 8 weeks]***	8	3	152-114
152-151	Mobile Application Development - Android ***[2nd 8 weeks]***	8	3	152-129
801-196	Oral/Interpersonal Communication	3	3	
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits	**22 hrs.**	**15 cr.**	
	Fourth Semester			
152-159	Web Multimedia ***[1st 8 weeks]***	8	3	152-108
152-116	Mobile Application Development II - IOS ***[1st 8 weeks]***	8	3	152-115
152-162	3D Game/Simulation Programming ***[2nd 8 weeks]*** **OR**	8	3	152-161 or concurrent
152-168	Mobile Web Applications ***[2nd 8 weeks]***			152-159 or concurrent
152-182	IT-SD Internship (128 hours) **OR**		2	Program student, instructor approval
152-166	IT-SD Capstone ***[2nd 8 weeks]***	6		Program student 152-126 or 152-116 or concurrent
801-197	Technical Reporting	3	3	801-195 or 801-136 or 801-219 with minimum grade of C
804-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits	**22 hrs.**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Information Technology - Network Specialist – 10-150-2

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

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

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

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

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

Professional Certification Exam	Course Number	Course Title
CompTIA A+	150-170	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)
- CCENT (Cisco Certified Entry Network Technician)

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

START DATE(S): August, January	EFFECTIVE: August 2015

INFORMATION TECHNOLOGY - NETWORK SPECIALIST

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
150-123	Information Technology Networking Concepts	4	3	Program student
150-120	Network Diagramming	2	1	Program student
150-150	CCNA 1: Introduction to Networks	4	3	Program student
150-134	Network Infrastructure Concepts	3	2	Program student
801-195	Written Communication **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
804-133	Math and Logic	4	3	(See Prepared Learner Guide)
809-166	Introduction to Ethics: Theory and Application	3	3	(See Prepared Learner Guide)
	Total Hrs./Week & Total Credits	**23 hrs.**	**18 cr.**	
	Second Semester			
150-160	Network Directory Services	4	3	Program student, 150-123, 150-150
150-175	Unix System Administration	4	3	150-123, 150-150
150-165	Microsoft Windows Network Admin.	4	3	150-123, 150-150
150-151	CCNA 2: Routing and Switching Essentials	4	3	150-150
150-143	Computer Hardware	6	4	150-123, 150-134
	Total Hrs./Week & Total Credits	**22 hrs.**	**16 cr.**	
	Third Semester			
150-155	IT Management Concepts **OR**	3	2	150-120, 150-165
150-182	Network Specialist Internship (128 hours)			Program student, or instructor approval
150-153	CCNA 3: Scaling Networks	3	2	150-151
150-180	Advanced Network Operating Systems 1	4	3	150-151, 150-160, 150-165, 150-175, 150-143
150-183	Wireless Networking	3	2	150-151 (or 605-109 for Electromechanical Technology Program students)
150-170	Computer Maintenance and Support	5	3	150-143
801-196	Oral/Interpersonal Communication	3	3	
809-198	Introduction to Psychology **OR**	3	3	(See Prepared Learner Guide)
809-251	General Psychology			(See Liberal Arts Placement Guide)
	Total Hrs./Week & Total Credits.	**24 hrs.**	**18 cr.**	
	Fourth Semester			
150-121	Network Design, Installation and Troubleshooting	4	3	150-153, 150-180
150-154	CCNA 4: Connecting Networks	3	2	150-153
150-181	Advanced Network Operating Systems 2	4	3	150-153, 150-180
150-184	Network Security	3	2	150-153, 150-180
809-195	Economics	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology **OR**	3	3	(See Prepared Learner Guide)
809-271	Introductory Sociology			(See Liberal Arts Placement Guide)
	Total Hrs./Week & Total Credits	**20 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Information Technology - Software Developer – 10-152-1

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

If you enjoy working with computers and are interested in the design and development of computer applications, games, and web pages, the Information Technology - Software Developer program could be just what you're looking for. It will benefit those who wish to distinguish themselves across a wide range of technical disciplines within the field of software development.

You'll receive hands-on learning with individual and team projects that will allow you to:

- Explore operating systems and platforms, including UNIX, Windows and Mac OS X
- Design and write computer programs using Java, C++, and Visual Basic.Net
- Analyze business processes and apply solutions with Agile software development and industry-standard reporting tools such as SSRS and Crystal
- Develop dynamic Web 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
- Develop valuable workplace skills: time management, collaboration, communication, critical thinking, and environmental awareness

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

- MCTS (Microsoft Certified Technology Specialist)
- OCPJP (Oracle Certified Professional Java Programmer)
- MTA DB (Microsoft Technology Associate Data Base)
- CIW JavaScript Specialist
- MCSD (Microsoft Certified Software Developer)

Interest in web based applications is at an all-time high, and new computer applications are always in development. The Information Technology - Software Developer 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.

START DATE(S): August, January	EFFECTIVE: August 2015

INFORMATION TECHNOLOGY – SOFTWARE DEVLOPER

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
152-102	IT-Software Developer Exploration ***[1st 8 weeks]***	4	1	
152-106	Operating Systems ***[1st 8 weeks]***	6	2	Program student
152-107	Web 1 - HTML and CSS ***[1st 8 weeks]***	8	3	Program student
152-101	Programming Fundamentals-JavaScript ***[2nd 8 weeks]***	8	3	Program student
152-132	Database 1 ***[2nd 8 weeks]***	8	3	Program student
804-133	Math and Logic	4	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Second Semester			
152-103	.NET Application Development ***[1st 8 weeks]***	8	3	152-101
152-136	Database 2 ***[1st 8 weeks]*** **OR**	8	3	152-132
152-161	3D Modeling 1 ***[1st 8 weeks]***			
152-108	Web 2 - JavaScript ***[2nd 8 weeks]***	8	3	152-101, 152-107
152-142	O O Analysis & Design-Java ***[2nd 8 weeks]***	8	3	152-101
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
	Total Credits		**18 cr.**	
	Third Semester			
152-129	Java Web Programming ***[1st 8 weeks]***	8	3	152-142
152-159	Web Multimedia ***[1st 8 weeks]***	8	3	152-101, 152-107
152-160	Object-Oriented C Programming ***[1st 8 weeks]*** **OR**	8	3	152-101
152-162	3D Game/Simulation Programming ***[2nd 8 weeks]***			152-101, (152-161 or concurrent)
152-105	.NET – ASP ***[2nd 8 weeks]*** **OR**	8	3	152-103
152-164	Database-Driven Web Design/Dev ***[2nd 8 weeks]***			152-108, (152-132 or concurrent)
801-196	Oral/Interpersonal Communication	3	3	
809-199	Psychology of Human Relations	3	3	(See Prepared Learner Guide)
	Total Credits		**18 cr.**	
	Fourth Semester			
152-112	Business Intelligence ***[1st 8 weeks]***	8	3	152-132, (152-103 or concurrent)
152-151	Mobile Application Development ***[1st 8 weeks]***	8	3	152-142
152-126	Agile Programming with Design Patterns ***[2nd 8 weeks]*** **OR**	8	3	152-129
152-168	Multimedia Program & Design ***[1st 8 weeks]***			152-159
152-182	Programmer/Analyst Internship (128 hours) **OR**		2	Program student, 152-107
152-166	IT-P/A Capstone ***[2nd 8 weeks]***			Program or Certificate student, (152-162 and 152-161) or 152-108
801-197	Technical Reporting	3	3	801-195 with a minimum grade of C, (See Prepared Learner Guide)
804-118	Intermediate Algebra w/ Apps **OR**	4	4	(See Prepared Learner Guide)
804-189	Introductory Statistics	3	3	804-110 with a minimum grade of C, (See Prepared Learner Guide)
	Total Credits		**17-18 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Landscape, Plant and Turf Management – 10-001-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

If this is how you would describe yourself, the Landscape, Plant and 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 including:

- Landscape Management
- Golf Course and Athletic Field Management
- Greenhouse Operation and Management
- Interior Plantscaping
- Vegetable and 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!

START DATE(S): August	EFFECTIVE: August 2015

LANDSCAPE, PLANT AND TURF MANAGEMENT

Associate Degree

Course Number	Course Title	Hrs./ Wk.	Credits	Prerequisite(s)/Comments
	First Semester			
001-100	Introduction to Horticulture (T, L)	4	3	Fall only, Program or pre-program student
001-116	Landscape Plants (T, L)	4	3	Fall only, Program or pre-program student
001-120	Horticulture Soils (T, L)	4	3	Fall only, Program or pre-program student
102-131	Introduction to Business (T)	3	3	
804-107	College Mathematics (T, L)	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Second Semester			
001-125	Horticulture Equipment & Safety (T) ***[1st 8 weeks]***	6	2	Spring only, Program or pre-program student
001-108	Business Apps for the Green Industry (T) ***[2nd 8 weeks]***	4	2	Spring only, Program or pre-program student
001-103	Turf Management and Irrigation (T, L)	4	2	Spring only, Program or pre-program student
806-134	General Chemistry (T, L)	5	4	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies (T)	3	3	(See Prepared Learner Guide)
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**16 cr.**	
	Third Semester (Summer)			
001-109	Horticulture Internship	36	3	Program student; 001-100
	Total Credits		**3 cr.**	
	Fourth Semester			
001-102	Landscape Design and Construction (L)	4	2	Fall only, Program or pre-program student
001-110	Integrated Plant/Pest Management (T, L) ***[1st 8 weeks]***	3	2	Fall only, Program or pre-program student
001-111	Sustainable Land Use Management (T, L)	4	3	Fall only, Program or pre-program student
001-112	Interior Plants and Plantscaping (T, L) ***[2nd 8 weeks]***	3	2	Fall only, Program or pre-program student
809-195	Economics (T)	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations (T) **OR**			(See Prepared Learner Guide)
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Fifth Semester			
001-104	Greenhouse Management (L)	4	2	Spring only, Program or pre-program student
001-115	Vegetable and Fruit Production (L)	4	2	Spring only, Program or pre-program student
001-113	Pesticide and Fertilizer Applications (T, L)	4	3	Spring only, Program or pre-program student
001-114	Entrepreneurship for the Green Industry (T) ***[1st 8 weeks]***	4	2	Spring only, Program or pre-program student
802-103	Spanish for the Workplace (T) ***[1st 8 weeks]***	6	2	
196-191	Supervision (T) ***[2nd 8 weeks]***	6	3	
801-196	Oral/Interpersonal Communication (T)	3	3	
	Total Credits		**17 cr.**	
458-306	CDL License Training	-	3	**Does not count toward graduation requirements**

MINIMUM PROGRAM CREDITS REQUIRED = 66

C =Clinical L = Lab T = Theory/Lecture

Liberal Arts – 20-800-2

Associate of Science Degree – Two Years

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

Description

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

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

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

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

CVTC advisors 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.

START DATE(S): August, January	EFFECTIVE: August 2015

LIBERAL ARTS – Associate of Science

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
804-224	College Algebra **OR**	4	4	See Liberal Arts Placement Guide
804-230	Statistics			See Liberal Arts Placement Guide
801-219	English Composition 1	3	3	See Liberal Arts Placement Guide
806-245	Principles of General Chemistry 1 **OR**	7	5	See Liberal Arts Placement Guide
806-276	Principles of General Physics 1	6		See Liberal Arts Placement Guide
890-205	Academic Success Strategies	1	1	
	*Social Science Selective	3	3	
	Total Credits		**16 cr.**	
	Second Semester			***Grade of "C" or better for all prerequisites***
801-223	English Composition 2	3	3	801-219
810-201	Fundamentals of Speech	3	3	
804-228	Plane Trigonometry	3	3	804-224
806-201	Principles of Biology **OR**	6	4	See Liberal Arts Placement Guide
806-207	Anatomy & Physiology 1	5		806-245
807-266	Wellness Today	3	2	
	*Humanities Selective		3	
	Total Credits		**18 cr.**	
	Third Semester			***Grade of "C" or better for all prerequisites***
804-236	Calculus & Analytic Geometry 1	5	5	804-224, 804-228
	*Math or Science Selective	5-7	4-5	
	*Humanities Selective	3	3	
	*(**3-4 credits from course categories below)*	3-4	3-4	
	Total Credits		**15-17 cr.**	
	Fourth Semester			***Grade of "C" or better for all prerequisites***
	*Social Science Selective	3	3	
	*Humanities Selective	3	3	
	(**9-11 credits from course categories below)		9-11	
	Total Credits		**15-17 cr.**	
	***Suggested Selectives*:**			***Grade of "C" or better for all prerequisites***
890-298	PLA Success Strategies	1	1	
801-240	Introduction to Creative Writing	3	3	801-219
	Humanities (minimum 9 cr):			
801-243	American Literature to 1865	3	3	801-219
801-239	American Literature Since 1865	3	3	801-219
803-211	U.S. History to 1877	3	3	See Liberal Arts Placement Guide
803-212	U.S. History 1877-Present	3	3	See Liberal Arts Placement Guide
809-225	Ethics	3	3	See Liberal Arts Placement Guide
	Social Science (minimum 6 cr):			
809-227	American Government	3	3	See Liberal Arts Placement Guide
809-251	General Psychology	3	3	See Liberal Arts Placement Guide
809-271	Introductory Sociology	3	3	See Liberal Arts Placement Guide
809-291	Principles of Microeconomics	3	3	See Liberal Arts Placement Guide
809-292	Principles of Macroeconomics	3	3	See Liberal Arts Placement Guide
	Math and Science (minimum 4 cr):			
804-240	Calculus & Analytic Geometry 2	5	5	804-236
806-208	Anatomy & Physiology 2	5	4	806-207
806-249	Principles of General Chemistry 2	7	5	806-245
806-280	Principles of General Physics 2	5	4	806-276
	Foreign Language (minimum 4 cr):			
802-211	Spanish 1	4	4	
802-212	Spanish 2	4	4	802-211
	Diversity/Ethnic Studies (minimum 3 cr):			
809-272	Race & Ethnicity in the U.S.	3	3	See Liberal Arts Placement Guide

MINIMUM PROGRAM CREDITS REQUIRED FOR GRADUATION = 64

*To make course load more manageable during fall and spring, students may also register for Liberal Arts courses offered during the summer term.

Machine Tooling Technics – 32-420-5

Technical Diploma – Two Years

Offered in Eau Claire ● August, October, January, March, and June entry dates ● Four days/week (Monday-Thursday) a.m. or p.m. (a.m. schedule 7 a.m. - 3 p.m., p.m. schedule 11 a.m. - 7 p.m.)

Description

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

The Machine Tool program offers training for employment as a Computer Numerical Control (CNC) Machinist, CNC Machine Programmer, Mold Maker/or Tool and Die maker. You will work on state-of-the art computerized machine tools and gain real world experience that can be used in today's high-tech manufacturing facilities.

This is the program for students seeking an interesting and challenging career in a clean, high-tech work environment, with job stability; and a career that rewards growth and experience. If you are interested in this program, contact the program director at 715-874-4642 to schedule a tour of the facilities.

You will learn:

- How to operate industrial size manual machine tools, engine lathes, milling machines, and grinding machines
- The skill to hold precision tolerances with machine tools
- The processes of chip removal and material forming
- The operation, setup, and programming of industrial Computerized Numerical Control (CNC) machine tools, milling machines, machining centers, and turning centers
- Computer-Aided Design/Computer-Aided Manufacturing (CAD/CAM) to manufacture parts

START DATE(S): August, October, January, March, June	EFFECTIVE: August 2015

MACHINE TOOLING TECHNICS

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
420-300	Machine Shop Theory	2	1	Program student; Co-requisite 420-321, 420-322, 420-373
420-321	Manual Turning Processes	10	5	Program student; Co-requisite 420-300, 420-322, 420-373
420-322	Manual Milling Processes	10	5	Program student; Co-requisite 420-300, 420-321, 420-373
804-361	Math 10 ***[1st 8 weeks]***	8	2	
421-385	MT Blueprint Reading and GD&T ***[2nd 8 weeks]***	8	2	Program student
420-373	Precision Measurement	2	1	Program student; Co-requisite 420-300, 420-321, 420-322
	Total Hrs./Week and Total Credits	**32 hrs.**	**16 cr.**	
	Second Semester			
420-310	CNC Mill Programming Theory	2	1	Program student; 420-321, 420-322, 804-361; Co-requisite 420-325
420-341	Materials for Machinists	4	2	420-321, 420-322
420-325	Basic CNC Mill Programming	10	5	Program student; 420-321, 420-322; Co-requisite 420-326
420-326	Advanced CNC Mill & Grinding Processes	10	5	420-321, 420-322; Co-requisite 420-325
420-380	2-D CAM	4	2	420-325 or concurrent
804-362	Math 20	4	2	804-361
	Total Hrs./Week and Total Credits	**34 hrs.**	**17 cr.**	
	Third Semester			
420-330	Basic CNC Lathe Programming ***[1st 8 weeks]***	10	5	420-321, 420-322; Co-requisite 420-331
420-331	Advanced CNC Turning Processes ***[2nd 8 weeks]***	10	5	Program student; 420-321, 420-322; Co-requisite 420-330
420-367	3-D CAM	6	3	420-380
420-353	CAM for CNC Lathe	4	2	420-380; Co-requisite 420-330
420-309	CNC Lathe Programming Theory	2	1	Program student; 420-321, 420-322, 804-361; Co-requisite 420-330
420-379	Job Skills for Manufacturing **OR**	3	1	Program student
801-356	Applied Job/Interpersonal Communication	2		
	Total Hrs./Week and Total Credits	**34-35 hrs.**	**17 cr.**	
	Fourth Semester			
420-351	Advanced CAD/CAM	6	3	Program student; 420-353, 420-367
420-352	Advanced Technologies in Manufacturing	10	5	420-326, 420-331, 420-353, 420-367; Co-requisite 420-355
420-355	Competitive Machining Techniques	10	5	Program student; 420-326, 420-331; Co-requisite 420-352
420-385	Advanced Machine Concepts **OR**	6	3	Program student; 420-326, 420-331, 420-367; Co-requisite 420-352
420-315	Machine Tool Internship (192 hours)	12		Program student; 420-326, 420-331
	Total Hrs./Week and Total Credits	**32 hrs.**	**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 66

Manufacturing Engineering Technologist – 10-623-8

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

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

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

Coursework includes communication, 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, 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.

The program is designed for workforce entry as Manufacturing Engineering Technologists and has been aligned with four-year degree pathways to engineering technology and industrial management.

START DATE(S): August	EFFECTIVE: August 2015

MANUFACTURING ENGINEERING TECHNOLOGIST

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
606-185	Blueprint Reading	2	1	
623-101	Engineering Principles	2	1	
623-132	Manufacturing Workplace Safety	2	2	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
804-115	College Technical Math 1	5	5	(See Prepared Learner Guide)
806-134	General Chemistry **OR**	5	4	(See Prepared Learner Guide)
806-245	Principles of General Chemistry 1	7	5	(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**19-21 hrs.**	**16-17 cr.**	
	Second Semester			
605-116	Engineering Electronics	5	3	
606-161	CAD, Basic	4	3	
801-196	Oral/Interpersonal Communication	3	3	
804-116	College Technical Math 2	4	4	804-115
806-154	General Physics I	5	4	804-115
	Total Hrs./Week and Total Credits	**21 hrs.**	**17 cr.**	
	Third Semester			
606-102	Principles of Design	3	2	
606-130	Solid Modeling 1	5	3	
623-107	Engineering Materials	4	3	Program student
623-111	Measurement for Engineering	2	1	
623-154	Engineering Economy	3	3	
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**18 cr.**	
	Fourth Semester			
606-104	Geometric Dimension & Tolerancing	4	3	
606-131	Solid Modeling II	5	3	606-130
623-130	Lean Fundamentals	2	2	
625-110	Manufacturing and Quality Assurance	3	3	804-189
809-196	Introduction to Sociology	3	3	(See Prepared Learner Guide)
102-112	Principles of Management **OR**	3	3	
102-188	Project Management **OR**			
623-114	Industry Practicum (192 hours)			Program student
	Total Hrs./Week and Total Credits	**20 hrs.**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Marketing Communications – 10-104-3

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

Description

If you're a "people person" with a flair for business, the Marketing Communications 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
- Retail management

This program will help 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 and entertainment event marketing
- Promotion/advertising methods and techniques
- Effective sales techniques
- 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 training and skills that you need for a truly rewarding career!

START DATE(S): August, January	EFFECTIVE: August 2015

MARKETING COMMUNICATIONS

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
102-112	Principles of Management	3	3	
103-102	Microsoft Office Suite	2	2	
104-102	Marketing Principles	3	3	
116-193	Introduction to Human Resources	3	3	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**17 hrs.**	**17 cr.**	
	Second Semester			
102-130	Business Management	3	3	
104-104	Professional Selling	3	3	
104-125	Advertising	4	3	104-102
801-196	Oral/Interpersonal Communication	3	3	
804-123	Math with Business Application **OR**	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**19-20 hrs.**	**18 cr.**	
	Third Semester			
104-105	Marketing Research	4	3	104-102
104-140	Business to Business Selling	3	3	104-104
104-109	Social Media Marketing Strategy	2	2	104-102, 104-125
104-166	Enterprise Marketing & Management	8	4	104-102, 104-104, 104-125
801-198	Speech	3	3	
809-172	Intro to Diversity Studies **OR**	3	3	(See Prepared Learner Guide)
809-196	Introduction to Sociology **OR**			(See Prepared Learner Guide)
809-166	Introduction to Ethics			(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**18 cr.**	
	Fourth Semester			
101-105	Introduction to Accounting **OR**	3	3	
101-111	Accounting 1	5	4	
104-108	Retail Management **OR**	3	3	Fall only
104-126	Promotional Design			Spring only, 104-102, 104-125
104-160	Entertainment/Sports Event Marketing	3	3	104-102, 104-125
104-169	Marketing Internship (72 hours)		1	Program Student, 104-166; Co-requisite: 104-182
104-182	Personal Branding	2	2	Program Student; 104-166; Co-requisite: 104-169
104-183	Marketing Management	3	3	104-102, 104-105, 104-125
	Total Hrs./Week and Total Credits	**14-16 hrs.**	**15-16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 68

Medical Assistant – 31-509-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

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

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

As a graduate of the program, you are eligible to take the American Association of Medical Assistant national certification exam. Upon successful completion of this test, you can use the title Certified Medical Assistant [CMA (AAMA)]. The Medical Assistant program is accredited by the Commission on Accreditation of Allied Health Education Programs (www.caahep.org), 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.

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

START DATE(S): August	EFFECTIVE: August 2015

MEDICAL ASSISTANT

Technical Diploma

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

MINIMUM PROGRAM CREDITS REQUIRED = 33

C =Clinical L = Lab T = Theory/Lecture

Medical Laboratory Technician – 10-513-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

Scope out your future in the Medical Laboratory Technician program at CVTC. If you find research exciting and like the thought of working in a lab, this is the right choice for you. This program helps you acquire the entry-level knowledge and skills you need to work in a clinical laboratory. Your work as a medical lab technician will help provide basic clues to potential illnesses, making this a rewarding career choice.

In the program you will learn how to:

- Collect and process biologic specimens for analysis
- Perform analytical tests on blood, body fluids, and tissues
- Recognize pre-analytical and analytical variables in laboratory testing
- Monitor quality control
- Perform preventative and corrective maintenance on laboratory instruments
- Maintain professional conduct in communication with patients, health care professionals, and the public

The program includes a clinical experience allowing students 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. When you complete the program, you will be awarded an associate of applied science degree as a Medical Laboratory Technician and will be eligible to take the national certification exam offered by the American Society for Clinical Pathology Board of Certification (ASCP-BOC).

START DATE(S): August	EFFECTIVE: August 2015

MEDICAL LABORATORY TECHNICIAN

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
513-110	Basic Lab Skills (L) ***[1st 8 weeks]***	4	1	Program student; Co-requisite: 513-113
513-111	Phlebotomy (T, L***) [2nd 8 weeks]***	6	2	
513-113	QA Lab Math (T) ***[1st 8 weeks]***	2	1	Co-requisite: 513-110
513-115	Basic Immunology Concepts (T, L)	3	2	Program student
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
806-186	Introduction to Biochemistry (T, L)	5	4	(See Prepared Learner Guide)
806-177	General Anatomy & Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Credits		**17 cr.**	
	Second Semester			
513-114	Urinalysis (T, L)	3	2	513-110, 513-113
513-120	Basic Hematology (T, L)	5	3	513-110, 513-111, 513-113, 513-115; Co-requisite: 513-121
513-121	Coagulation (L)	2	1	513-110, 513-111, 513-113, 513-115; Co-requisite: 513-120
513-109	Blood Bank (T, L)	6	4	513-110, 513-113, 513-115
806-197	Microbiology (T, L)	5	4	806-177
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**17 cr.**	
	Third Semester (Summer)			
801-196	Oral/Interpersonal Communication (T) **OR**	6	3	
801-197	Technical Reporting (T) **OR**			801-195 with a minimum grade of "C"
801-198	Speech (T)			
809-195	Economics (T) **OR**	6	3	(See Prepared Learner Guide)
809-172	Introduction to Diversity Studies (T)			(See Prepared Learner Guide)
	Total Credits		**6 cr.**	
	Fourth Semester			
513-131	Clinical Chemistry 1 (T, L)	4	3	513-114, 806-186, 806-177
513-132	Clinical Chemistry 2 (T, L)	3	2	Co-requisite: 513-131
513-133	Clinical Microbiology (T, L)	6	4	Program student; 806-197; Co-requisite: 513-140
513-140	Advanced Microbiology (T, L)	3	2	806-197; Co-requisite: 513-133
513-145	MLT Seminar (T)	3	3	Program student, third semester status, Fall only
	Total Credits		**14 cr.**	
	Fifth Semester			***Relocation likely***
513-130	Advanced Hematology (C) ***[20 weeks]***		2	513-120 and 513-121; Co-requisites: 513-151
513-151	Clinical Experience 1 (C)		3	Program student; 513-131, 513-132, 513-145; Co-requisites: 513-130, 513-152, 513-144
513-152	Clinical Experience 2 (C)		4	Program student; 513-131, 513-132, 513-145; Co-requisites: 513-130, 513-151, 513-144
513-144	Clinical Experience 3 (C)		4	Program student; Co-requisites: 513-130, 513-151, 513-152
	Total Credits		**13 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 67

C =Clinical L = Lab T = Theory/Lecture

Motorcycle, Marine and Outdoor Power Products Technician – 31-461-2

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

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

Your program includes experience with E-TEC, the technology behind today's energy-efficient, low-emissions two-stroke engines. This new engineering has produced two-stroke engines that meet Environmental Protection Agency (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!

START DATE(S): August	EFFECTIVE: August 2015

MOTORCYCLE, MARINE AND OUTDOOR POWER PRODUCTS TECHNICIAN

Technical Diploma

Course Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester		
442-314A	Related Welding, Marine	2	Program student
461-310	Basic Engines/Systems, Intro to [***1st 8 weeks]***	5	Fall only; Program student; 461-312 or concurrent
461-312	Engine Theory 1	2	Fall only; 461-310 or concurrent
461-330	Marine Outboards ***[2nd 8 weeks]*** **OR**	5	461-310, 461-312 or concurrent
461-340	Marine Inboards ***[2nd 8 weeks]***		461-310, 461-312 or concurrent
804-360E	Math for Technical Trades – Transportation	2	Program or pre-program student
	Total Hrs./Week and Total Credits	**16 cr.**	
	Second Semester		
461-313	Engine Theory 2	2	Spring only; 461-310, 461-312
461-330	Marine Outboards ***[1st 8 weeks]*** **OR**	5	461-310, 461-312 or concurrent
461-340	Marine Inboards ***[1st 8 weeks]***		461-310, 461-312 or concurrent
461-320	Snowmobiles and ATVs ***[2nd 8 weeks]*** **OR**	5	461-310, 461-312 or concurrent
461-360	Motorcycles ***[2nd 8 weeks]***		461-310, 461-312 or concurrent
801-356	Applied Job/Interpersonal Communication	1	
809-351	Occupational Relations	2	
	Total Hrs./Week and Total Credits	**15 cr.**	
	Third Semester (Summer)		
461-314	Engine Theory 3	1	Summer only; 461-310, 461-313
461-320	Snowmobiles and ATVs **OR**	5	461-310, 461-312 or concurrent
461-360	Motorcycles		461-310, 461-312 or concurrent
	Total Hrs./Week and Total Credits	**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 37

Nano Engineering Technology – 10-635-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

The Nano Engineering Technology program provides training for those seeking a career in micro or nano systems engineering, manufacturing and scientific laboratory applications, or 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 biotechnology, chemistry, physics, and nanoscience. You will design, produce, and analyze molecular level applications as they have transitioned from research to consumer products. You will use instrumentation, micro and nano fabrication processes, statistics, 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.

The program is designed for workforce entry as Nano Engineering Technologists and has been aligned with four-year degree pathways to applied science, engineering technology and material science.

START DATE(S): August	EFFECTIVE: August 2015

NANO ENGINEERING TECHNOLOGY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
606-185	Blueprint Reading	2	1	
623-101	Engineering Principles	2	1	
623-132	Manufacturing Workplace Safety	2	2	
801-136	English Composition 1	3	3	(See Prepared Learner Guide)
804-115	College Technical Math 1	5	5	(See Prepared Learner Guide)
806-134	General Chemistry **OR**	5	4	(See Prepared Learner Guide)
806-245	Principles of General Chemistry 1	7	5	(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**19-21 hrs.**	**16-17 cr.**	
	Second Semester			
605-116	Engineering Electronics	5	3	
606-161	CAD, Basic	4	3	
801-196	Oral/Interpersonal Communication	3	3	
804-116	College Technical Math 2	4	4	804-115
806-154	General Physics I	5	4	804-115
	Total Hrs./Week and Total Credits	**21 hrs.**	**17 cr.**	
	Third Semester			
623-107	Engineering Materials	4	3	Program student
635-100	Fundamentals of Nanoscience	4	3	806-134 or concurrent
635-118	Intro to Biotechnology	4	3	Program student, 623-108
635-119	Introduction to MEMS	5	3	
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
809-198	Intro to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**18 cr.**	
	Fourth Semester			
625-110	Manufacturing & Quality Assurance	3	3	804-189
635-103	Lab Science Instrumentation	3	2	
635-112	Micro & Nano Fabrication Lab	4	2	
635-114	Biotechnology Lab	4	2	
809-196	Intro to Sociology	3	3	(See Prepared Learner Guide)
102-112	Principles of Management **OR**	3	3	
102-188	Project Management **OR**			
623-114	Industry Practicum (192 hours)			Program student
	Total Hrs./Week and Total Credits	**20 hrs.**	**15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 66

Nursing - 10-543-1

Associate Degree – Two Years

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

Description

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

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

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

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

The program is a member of and accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Road, NE, Suite 850, Atlanta, GA 30326; http://www.acenursing.org

START DATE(S): August, January	EFFECTIVE: August 2015

NURSING

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
806-177	General Anatomy & Physiology (T, L) *	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
806-179	Advanced Anatomy & Physiology (T, L) *	5	4	
	Total Credits		**8 cr.**	806-177
	First Semester			
543-101	Nursing Fundamentals (T)	2	2	Program student, 806-177 or concurrent
543-102	Nursing Skills (L)	6	3	Program student, (543-101, 543-103, 806-177 or concurrent)
543-103	Nursing Pharmacology (T)	2	2	Program student, 806-177 or concurrent
543-104	Nsg: Introduction to Clinical Practice (C), ***[8 weeks]***	12	2	Program student, (543-101, 543-102, 543-103, 806-177 or concurrent)
801-195	Written Communication (T) **OR**	3	3	(See Prepared Learner Guide)
801-136	English Composition 1(T) **OR**			(See Prepared Learner Guide)
801-219	English Composition 1 (T)			(See Liberal Arts Placement Guide)
809-188	Developmental Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Second Semester			
543-105	Nursing Health Alterations (T)	3	3	Program student, 543-101, 543-102, 543-103, 543-104, 806-177, (543-107, 809-188 or concurrent)
543-106	Nursing Health Promotion (T)	3	3	Program student, 543-101, 543-102, 543-103, 543-104, 806-177, (543-108, 809-188 or concurrent)
543-107	Nsg: Clinical Care Across the Lifespan (C), ***[8 weeks]***	12	2	Program student, 543-101, 543-102, 543-103, 543-104, (543-105 or concurrent)
543-108	Nsg: Introduction to Clinical Care Management (C), ***[8 weeks]***	12	2	Program student, 543-101, 543-102, 543-103, 543-104, (543-106, 809-188 or concurrent)
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
801-198	Speech (T)			
	Total Credits		**13 cr.**	
	Third Semester			
543-109	Nsg: Complex Health Alterations I (T)	3	3	Program student, 543-105, 543-106, 543-107, 543-108, 806-179, (806-197 or concurrent)
543-110	Nsg: Mental Health and Community Concepts (T)	2	2	Program student, 543-105, 543-106, 543-107, 543-108, 806-179
543-111	Nsg: Intermediate Clinical Practice (C) ***[8 weeks]***	18	3	Program student, 806-179, (543-109, 543-110, 543-112, 806-197, [809-198 or 809-199] or concurrent)
543-112	Nursing Advanced Skills (L)	2	1	Program student, 543-105, 543-106, 543-107, 543-108, 806-179
806-197	Microbiology (T, L)	5	4	806-177
809-198	Introduction to Psychology (T) **OR**	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations (T)			(See Prepared Learner Guide)
	Elective		3	
	Total Credits		**19 cr.**	
	Fourth Semester			
543-113	Nsg: Complex Health Alterations 2 (T) ***[12 weeks]***	4	3	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199)
543-114	Nsg: Management and Professional Concepts (T) ***[11 weeks]***	3	2	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199)
543-115	Nsg: Advanced Clinical Practice (C) ***[1st 8 weeks]***	18	3	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199), (543-113 or concurrent)
543-116	Nursing Clinical Transition (C) ***[2nd 8 weeks]***	12	2	543-109, 543-110, 543-111, 543-112, 806-197, (809-198 or 809-199), (543-113, 543-114, 543-115 or concurrent)
809-196	Introduction to Sociology (T) **OR**	3	3	(See Prepared Learner Guide)
809-172	Intro to Diversity Studies (T) **OR**			(See Prepared Learner Guide)
809-197	Contemporary American Society (T)			(See Prepared Learner Guide)
	Elective		2	
	Total Credits		**15 cr.**	
	Suggested Electives			
543-121	Introduction to Critical Care Nursing (T, L)	4	3	Spring only; Program or Certificate student, 543-116 or concurrent
543-166	Introduction to Emergency Department Nursing (T, L)	4	3	Fall only; Program or Certificate student, 543-116 or concurrent

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

***Anatomy and Physiology Sequence Options**

The program requires one of two sequence options: the sequence of 806-177 General A & P and 806-179 Advanced A & P or, if you plan on transferring to a four-year degree program, the sequence 806-207 A & P I and 806-208 A & P II. Students must follow one of the sequences above.

Nursing Assistant – 30-543-1

Technical Diploma – Less Than One Year

Offered in Eau Claire and River Falls ● August, January, and June entry dates

Description

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

- Are kind and compassionate
- Have good communication skills
- Can work as a team member
- Aare 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 lecture, 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. 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.

Program Information

START DATE(S): August, January, June	EFFECTIVE: August 2015

NURSING ASSISTANT

Technical Diploma

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

MINIMUM PROGRAM CREDITS REQUIRED = 3

Organizational Leadership – 10-196-1

Associate Degree – Two Years

Offered Online ● January entry date

Description

This program is designed to meet the increasing demand for trained supervisors/leaders. The program content provides leadership training and education for individuals presently employed in supervisory positions and also those who wish to prepare themselves for such a position. The curriculum focuses on assisting the learner in developing a wide range of leadership skills in areas including human relations, budgeting, decision-making, communications, report writing, process improvement, project management, legal issues and managing for quality.

Program Information

START DATE(S): January	EFFECTIVE: January 2016

ORGANIZATIONAL LEADERSHIP

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
890-115	Online Success Strategies	4	1	
196-107	Time Management	4	1	
196-108	Building Collaborative Relationships	4	1	
196-109	Personal Ethics	4	1	
196-115	Leadership	4	1	
196-116	Managing Communication	4	1	
196-117	Supervisor Roles	4	1	
196-118	Leading through Mission, Vision, & Value Statements	4	1	
196-119	Stress Management/Wellness	4	1	
196-120	Conflict Resolution	4	1	
801-196	Oral/Interpersonal Communication	6	3	
809-196	Introduction to Sociology	6	3	(See Prepared Learner Guide)
	Total Credits		**16 cr.**	
	Second Semester			
196-121	Change Process	4	1	
196-122	Concepts of Problem Solving	4	1	
196-123	Diversity	4	1	
196-124	Employee Discipline	4	1	
196-125	Employee Performance	4	1	
196-126	Managing Work Teams	4	1	
196-131	Employee Development & Coaching	4	1	
196-132	Financial Management	4	1	
196-135	Organizational Ethics	4	1	
196-137	Recruitment and Hiring	4	1	
801-136	English Composition 1	6	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	6	3	(See Prepared Learner Guide)
	Total Credits		**16 cr.**	
	Third Semester			
196-138	Creativity and Innovation	4	1	
196-139	Strategic Planning, Goal Setting & Succession Planning	4	1	
196-140	Orientation and Training	4	1	
196-141	Labor Force Issues	4	1	
196-143	Process Management	4	1	
196-144	Production Management	4	1	
196-145	Quality Management	4	1	
196-146	Workplace Social Responsibility	4	1	
196-147	Leading Change	4	1	
196-148	Lean Principles	4	1	
801-197	Technical Reporting	6	3	801-136 with a "C" or better
804-123	Math w/ Business Applications **OR**	8	3	
804-189	Introductory Statistics	6		
	Total Credits		**16 cr.**	
	Fourth Semester			
196-149	Budget Analysis	4	1	
196-150	Applied Problem Solving	4	1	
196-151	Leading Projects	8	2	
196-152	Global Business	4	1	
196-153	Marketing and Customer Service	4	1	
196-154	Organizational Development	4	1	
196-156	Planning and Control	4	1	
196-158	Employment Law	4	1	
196-159	Financial Statements	4	1	
196-161	Managing Bias	4	1	
196-162	Safety Management	4	1	
196-167	Leadership Capstone	4	1	Instructor approval
809-195	Economics	6	3	
	Total Credits		**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 64

Paralegal – 10-110-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

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

Working under the supervision of an attorney, paralegals:

- Investigate facts of a case
- Work with clients
- Use computers to find/organize legal information
- Review contracts, 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 Science, you might consider obtaining a Paralegal certificate, which may be completed in one year.

START DATE(S): August	EFFECTIVE: August 2015

PARALEGAL

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
*110-101	Introduction to Paralegalism and Legal Ethics	3	3	Fall only
*110-102	Civil Litigation I	3	3	Fall only
*110-104	Legal Research	3	3	Fall only
809-122	Introduction to American Government **OR**	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society			(See Prepared Learner Guide)
801-136	English Composition 1 **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**15 hrs.**	**15 cr.**	
	Second Semester			***Grade of "C" or better for all prerequisites***
106-141	Computer Applications-Legal	3	3	
*110-103	Civil Litigation II	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-105	Legal Writing	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-106	Family Law	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
809-195	Economics	3	3	(See Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18 hrs.**	**18 cr.**	
	Third Semester			***Grade of "C" or better for all prerequisites***
*110-168	Criminal Law-Paralegal	3	3	Fall only, 110-103 or (BA or BS)
*110-114	Administration of Estates	3	3	Fall only, 110-103 or (BA or BS)
*110-160	Employment Law **OR**	3	3	Fall only, 110-102, 110-104 (801-136 or 801-219)
*110-147	Immigration Law **OR**			Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-180	Elder Law			110-102, 110-104 (801-136 or 801-219)
*110-110	Real Estate Law **OR**	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-115	Administrative Law			Fall only, 110-102, 110-104 (801-136 or 801-219)
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
809-128	Marriage and Family **OR**	3	3	(See Prepared Learner Guide)
809-159	Abnormal Psychology			809-198
	Total Hrs./Week and Total Credits	**18 hrs.**	**18 cr.**	
	Fourth Semester			***Grade of "C" or better for all prerequisites***
101-105	Intro to Accounting	3	3	
*110-107	Legal Aspects of Business Organizations	3	3	Spring only, 110-103
*110-122	Debtor and Creditor Relations **OR**	3	3	Spring only, 110-102, 110-104 (801-136 or 801-219)
*110-170	Contract Law			110-102, 110-104 (801-136 or 801-219)
*110-142	Paralegal Internship (144 hours off campus work exp.) **OR**		3	110-101, 110-103, 110-105 (110-114 or 110-168)
*110-143	Paralegal Field Study, (144 hours independent study)			110-101, 110-103, 110-105 (110-114 or 110-168)
801-196	Oral/Interpersonal Communication **OR**	3	3	
801-198	Speech			
	Total Hrs./Week and Total Credits	**12 hrs.**	**15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 66

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

Paramedic Technician – 10-531-1

Associate Degree – Two Years

Offered in Eau Claire and River Falls ● January entry date

Description

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

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

- Responding to medical and traumatic emergencies
- Assessing ill and injured people
- Initiating care (within your scope of practice)
- Providing for continuity of care
- Taking 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 and Family 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!

Program Information

START DATE(S): January	EFFECTIVE: January 2016

PARAMEDIC TECHNICIAN

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
531-180	Intro to Advanced Pre-hospital Care (T, L)	7	4	WI EMT-Basic License, Current Healthcare Provider CPR
801-195	Written Communication (T)	3	3	(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication (T)	3	3	(See Prepared Learner Guide)
806-177	General Anatomy and Physiology (T, L)	5	4	(See Prepared Learner Guide)
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**17 cr.**	
	Second Semester (Summer)			
806-179	Advanced Anatomy and Physiology (T, L)	5	4	806-177
531-911	EMS Fundamental	2	2	Program student
531-912	Paramedic Medical Principles	4	4	Program student; 531-911 or concurrent
	Total Hrs./Week and Total Credits	**11 hrs.**	**10 cr.**	
	Third Semester			
531-913	Advanced Patient Assessment Principles (T, L)	4	3	Program student; 531-912 or concurrent
531-914	Advanced Pre-hospital Pharmacology (T, L)	4	3	Program student; 531-913 or concurrent
531-915	Paramedic Respiratory Management (T, L)	3	2	Program student; 531-914 or concurrent
531-916	Paramedic Cardiology (T, L)	5	4	Program student; 531-915 or concurrent
531-917	Paramedic Clinical/Field 1 (192 hours)		3	Program student; 531-916 or concurrent
531-918	Advanced Emergency Resuscitation (L)	2	1	Program student; 531-917 or concurrent
809-188	Developmental Psychology	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**19 cr.**	
	Fourth Semester			
531-919	Paramedic Medical Emergencies (T)	4	4	Program student; 531-917 or concurrent
531-920	Paramedic Trauma (T, L)	4	3	Program student; 531-919 or concurrent
531-921	Special Patient Populations (T, L)	4	3	Program student; 531-920 or concurrent
806-197	Microbiology (T, L)	5	4	806-177
809-172	Intro to Diversity Studies	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**20 hrs.**	**17 cr.**	
	Fifth Semester (Summer)			
531-922	EMS Operations (T)	1	1	Program student; 531-921 or concurrent
531-923	Paramedic Capstone (T, L)	2	1	Program student; 531-921 or concurrent
531-924	Paramedic Clinical/Field 2 (256 hours)	33	4	Program student
	Total Hrs./Week and Total Credits	**36 hrs.**	**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 69

C =Clinical L = Lab T = Theory/Lecture

Pharmacy Technician – 31-536-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

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

- Enjoy working with people
- Have strong customer service skills
- Prefer to work as a member of a team
- Are alert, observant, and organized
- Can accept responsibility
- Have strong mathematics, spelling, and reading skills

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

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

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

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

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

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

START DATE(S): August	EFFECTIVE: August 2015

PHARMACY TECHNICIAN

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
501-101	Medical Terminology (T)	3	3	
536-110	Pharmaceutical Calculations (T)	3	3	Program student, Co-requisite: 536-112, 536-115, 536-120, 536-134, 536-138, (501-101 or concurrent)
536-112	Pharmacy Business Applications (T, L)	5	4	Program student, Co-requisite: 536-110, 536-115, 536-120, 536-134, 536-138
536-115	Pharmacy Law (T)	2	2	Program student, Co-requisite: 536-110, 536-112, 536-120, 536-134, 536-138
536-120	Fundamentals of Reading Prescriptions (T), ***[1st 8 weeks]***	4	2	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-134, 536-138
536-134	Pharmacy Benefits-Managing (T), ***[2nd 8 weeks]***	2	1	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-120 , 536-138
536-138	Pharmacy Community Clinical (C), ***[2nd 8 weeks]***	16	2	Program student, Co-requisite: 536-110, 536-112, 536-115, 536-120, 536-134
	Total Credits		**17 cr.**	
	Second Semester			
536-122	Pharmacology for Pharmacy Technician (T)	3	3	Program student, Co-requisite: 536-124, 536-126, 536-140, 536-141
536-124	Pharmacy Drug Dist. Systems (T) ***[1st 8 weeks]***	2	1	Program student, 536-112, 536-134, 536-138, Co-requisite: 536-122, 536-126, 536-140, 536-141
536-126	Pharmacy Parenteral Admixtures (T)	3	3	Program student, Co-requisites: 536-122, 536-124, 536-140, 536-141
536-140	Pharmacy Hospital Clinical (C)	7	2	Program student, Co-requisites: 536-122, 536-124, 536-126, 536-141
536-141	Hospital Pharmacy Lab (L)	4	2	Program student, Co-requisites: 536-122, 536-124, 536-126, 536-140
801-196	Oral/Interpersonal Communication (T)	3	3	
809-199	Psychology of Human Relations (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 34

C =Clinical L = Lab T = Theory/Lecture

Physical Therapist Assistant – 10-524-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

If you are dependable, patient, empathetic, able to do some lifting, have good communication skills, and are interested in a career in the health field, the Physical Therapist Assistant program could be for you.

The program prepares you to become a physical therapist assistant in a hospital, nursing home, rehabilitation center, or other health care facility. You would assist the physical therapist:

- Implement treatment programs
- Teach patients to perform exercises
- Conduct treatments using special equipment

Physical therapist assistants are employed in physical therapy clinics, nursing care facilities, physicians' offices, general medical and surgical hospitals, and other health care settings. They also work for home health organizations and school systems. The need for physical therapist assistants is projected to grow due to the increased need for support personnel in health care and the shortage of physical therapists. This could be the program you're looking for!

The Physical Therapist Assistant program at Chippewa Valley Technical College is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 1111 North Fairfax St., Alexandria, Virginia 22314; Telephone: 703-706-3245; E-mail: accreditation@apta.org; Website: www.capteonline.org).

START DATE(S): August	EFFECTIVE: August 2015

PHYSICAL THERAPIST ASSISTANT

Associate in Applied Science Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
524-138	PTA Kinesiology 1 (T, L)	4	3	Program student, 806-177 or concurrent, Co-requisites: 524-139, 524-140,
524-139	PTA Patient Interventions (T, L)	6	4	Program student, Co-requisites: 524-138, 524-140
524-140	PTA Professional Issues 1 (L)	2	2	Program student, Co-requisites: 524-138, 524-139
801-195	Written Communication (T) **OR**	3	3	(See Prepared Learner Guide)
801-136	English Composition 1 (T)			(See Prepared Learner Guide)
806-177	General Anatomy and Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**20 hrs.**	**16 cr.**	
	Second Semester			
524-141	PTA Kinesiology 2 (T, L)	6	4	524-138, 524-139, 524-140, 806-177, Co-requisites: 524-142, 524-143
524-142	PTA Therapeutic Exercise (T, L)	5	3	524-138, Co-requisites: 524-141, 524-143
524-143	PTA Therapeutic Modalities (T, L)	6	4	Co-requisites: 524-141 and 524-142
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
801-198	Speech (T)			
809-198	Introduction to Psychology (T) **OR**	3	3	(See Prepared Learner Guide)
809-251	General Psychology (T)			(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**23 hrs.**	**17 cr.**	
	Third Semester (Summer)			
809-196	Introduction to Sociology (T)	6	3	(See Prepared Learner Guide)
809-188	Developmental Psychology (T)	6	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**12 hrs.**	**6 cr.**	
	Fourth Semester			
524-144	PTA Principles of Neuromuscular Rehabilitation (T, L)	6	4	524-141, 524-142, 524-143, Co-requisites: 524-145, 524-146, 524-147
524-145	PTA Principles of Musculoskeletal Rehabilitation (T, L)	6	4	524-139, 524-141, 524-142, Co-requisites: 524-144, 524-146, 524-147
524-146	PTA Cardiopulmonary and Integumentary Management (T, L)	4	3	524-139, 524-141, 524-142, Co-requisites: 524-144, 524-145, 524-147
524-147	PTA Clinical Practice 1 (L, C)	8	2	524-141, 524-142, Co-requisites: 524-144, 524-145, 524-146
809-172	Intro to Diversity Studies (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**27 hrs.**	**16 cr.**	
	Fifth Semester			
524-148	PTA Clinical Practice 2 (L, C), ***[Weeks 1-5]****	40	3	524-147, Co-requisites: 524-149, 524-150, 524-151
524-149	PTA Rehabilitation Across the Lifespan** (L)	2	2	524-147, Co-requisites: 524-148, 524-150, 524-151
524-150	PTA Professional Issues 2** (L)	2	2	524-147, Co-requisites: 524-148, 524-149, 524-151
524-151	PTA Clinical Practice 3 (L, C), ***[Weeks 9-16]****	40	5	524-147, Co-requisites: 524-148, 524-149, 524-150
	Elective		3	
	Total Hrs./Week and Total Credits	**40 hrs.**	**15 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C = Clinical L = Lab T = Theory/Lecture

*Students must pass each 524 course, in sequence, within a given semester prior to starting the subsequent course(s).

**Hours per week will vary throughout the semester.

Radiography – 10-526-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

The Radiography program may be a good match for you if you are:

- Efficient and accurate with an eye for detail.
- Able to follow physicians' orders.
- Compassionate.
- Seeking a career helping others.
- Physically able to meet the demands of the profession.
- Good at science and math.

As a radiologic technologist, you will work with patients to produce radiographs that aid in the diagnosis of diseases. You will prepare patients for the exam, position them for the radiograph, and follow all regulations to protect yourself, your patients, and your co-workers from unnecessary exposure. This is a physically demanding career; you're on your feet for long periods and must be able to lift or turn patients and move equipment.

You'll learn through classroom, laboratory, and clinical education experiences. You'll work with patients as part of your training. When you graduate, you are eligible to write the ARRT national registry examination to become an RT(R), Registered Technologist (Radiography). The Radiography program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20N Wacker Drive, Suite 2840, Chicago, IL 60606-2901; phone 312-704-5300; fax 312-704-5304; e-mail mail@jrcert.org; website www.jrcert.org.

Employment prospects are good for registered technologists. Radiologic technologists willing to relocate and who are experienced in more than one diagnostic imaging modality (x-ray, CT, MRI) have the best employment opportunities.

The Radiography program could be your first step toward a rewarding career!

START DATE(S): August	EFFECTIVE: August 2015

RADIOGRAPHY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
526-149	Radiographic Procedures 1 (T, L)	7	5	Program student, 806-177 or concurrent
526-158	Introduction to Radiography (T, L)	4	3	Program student
526-159	Radiographic Imaging 1 (T, L)	4	3	Program student
526-168	Radiography Clinical 1 (L) (64 hours)	4	2	Program student, 806-177 or concurrent, Co-requisite: 526-149, 526-158, 526-159
806-177	General Anatomy & Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**24 hrs.**	**17 cr.**	
	Second Semester			
526-170	Radiographic Imaging 2 (T, L)	4	3	Program student, 526-159
526-191	Radiographic Procedures 2 (T, L)	7	5	Program student, 526-149, 806-177
526-192	Radiography Clinical 2 (C) (192 hours)	12	3	Program student, 526-168. Co-requisites: 526-170, 526-191
804-107	College Mathematics (T)	3	3	(See Prepared Learner Guide)
809-195	Economics (T) **OR**	3	3	(See Prepared Learner Guide)
809-197	Contemporary American Society (T)			(See Prepared Learner Guide)
809-172	**OR**			(See Prepared Learner Guide)
	Intro to Diversity Studies (T)			
	Total Hrs./Week and Total Credits	**29 hrs.**	**17 cr.**	
	Third Semester (Summer)			
526-193	Radiography Clinical 3 (C) (128 hours)	16	3	Program student, 526-192, 526-170, 526-191
809-198	Introduction to Psychology (T)	6	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**22 hrs.**	**6 cr.**	
	Fourth Semester			
526-194	Imaging Equipment Operation (T)	3	3	Program student, 526-158 (526-159 or concurrent)
526-196	Modalities (T)	3	3	Program student, or permission from Program Director
526-199	Radiography Clinical 4 (C) (256 hours)	16	3	526-193
801-136	English Composition 1(T) **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1 (T)			(See Liberal Arts Placement Guide)
	Total Hrs./Week and Total Credits	**25 hrs.**	**12 cr.**	
	Fifth Semester			
526-189	Radiographic Pathology (T)	1	1	Program student, 526-191
526-190	Radiography Clinical 5 (C) (256 hours)	16	2	Program student, 526-199
526-195	Radiographic Quality Analysis (T, L)	3	2	Program student, 526-170, 526-191.Co-requisite 526-189
526-197	Radiation Protection and Biology (T)	3	3	Program student, 526-158, 526-194 (526-170 or concurrent)
801-196	Oral/Interpersonal Communication (T)	3	3	
809-196	Introduction to Sociology (T)	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**29 hrs.**	**14 cr.**	
	Sixth Semester (Summer)			
526-198	Radiography Clinical 6 (C) (256 hours)	32	2	526-190
526-174	ARRT Certification Seminar (T)	2	2	Program student, or permission from Program Director
	Total Hrs./Week and Total Credits	**34 hrs.**	**4 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

Renal Dialysis Technician – 31-517-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

If this is how you describe yourself, you might be a good candidate for the Renal Dialysis Technician program:

- Seeking a career in the health field
- Compassionate
- Good communication skills
- Good technical skills
- Accurate, alert, and organized
- Able to work on your feet for many 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 within 18 months of being hired 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!

START DATE(S): August	EFFECTIVE: August 2015

RENAL DIALYSIS TECHNICIAN

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
501-101	Medical Terminology	3	3	
517-320	Intro to Renal Dialysis (T, L) ***[1st 8 weeks]***	12	3	Program student, 501-101, (801-196 or 801-351) and (809-198 or 809-199) or concurrent; Co-requisite: 517-321
517-321	Principles of Renal Dialysis 1 (T, L, C), ***[2nd 8 weeks]***	18	4	Program student, 517-320 or concurrent
801-196	Oral/Interpersonal Communication (T) **OR**	3	3	
801-351	Applied Communication (T)	3	2	
809-198	Introduction to Psychology (T) **OR**	3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations (T)			(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**24 hrs.**	**15-16 cr.**	
	Second Semester			
517-302	Renal Failure and Support Therapies (T)	6	3	517-321; Co-requisite: 517-304, 517-322, 517-323, 517-324
517-304	Hemodialysis Lab Procedures (L) ***[1st 8 weeks]***	4	1	517-321; Co-requisite: 517-302, 517-322, 517-323, 517-324
517-322	Principles of Renal Dialysis 2 (T)	6	3	517-321; Co-requisite: 517-302, 517-304, 517-323, 517-324
517-323	Clinical Practicum 1 (C) ***[1st 8 weeks]***	16	2	517-321; Co-requisite: 517-302, 517-304, 517-322, 517-324
517-324	Clinical Practicum 2 (C) ***[2nd 8 weeks]***	24	3	517-323 or concurrent
	Total Hrs./Week and Total Credits	**34 hrs.**	**12 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 27

C =Clinical L = Lab T = Theory/Lecture

Residential Construction – 31-475-3

Technical Diploma – One Year

Offered in Eau Claire and River Falls ● August entry date

Description

The Residential Construction program can help you prepare for a variety of careers in the home building industry. This field needs people with physical abilities and good analytical skills such as:

- 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. Your final 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!

START DATE(S): August	EFFECTIVE: August 2015

RESIDENTIAL CONSTRUCTION

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
475-100	Construction Safety *[2 weeks prior to first semester]*	16/2	1	Program student
	First Semester			
475-110	Framing Methods/Building the Envelope	4	4	Program student; 475-100 or concurrent; Co-requisite 475-111, 475-112, 475-115
475-111	Framing Methods/Building the Envelope Lab	16	5	Program student; 475-100 or concurrent; Co-requisite 475-110, 475-112, 475-115
475-112	Construction Basics and Print Reading	4	2	Program student; 475-100 or concurrent; Co-requisite 475-110, 475-111, 475-115
475-115	Roof Systems and Stairs	6	3	Program student; 475-100 or concurrent; Co-requisite 475-110, 475-111, 475-112
806-112	Principles of Sustainability	4	3	
	Total Credits		**18 cr.**	
	Second Semester			
475-120	Finish Carpentry Interior and Exterior	4	4	475-100, 475-110, 475-111, 475-112, 475-115; Co-requisite 475-121, 475-124, 475-125
475-121	Finish Carpentry Interior and Exterior Lab	16	5	475-100, 475-110, 475-111, 475-112, 475-115; Co-requisite 475-120, 475-124, 475-125
475-124	Construction Planning	4	2	475-100, 475-110, 475-111, 475-112, 475-115; Co-requisite 475-120, 475-121, 475-125
475-125	Estimating Residential Construction	6	3	475-100, 475-110, 475-111, 475-112, 475-115; Co-requisite 475-120, 475-121, 475-124
801-196	Oral/Interpersonal Communication	3	3	
	Total Credits		**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 35

Respiratory Therapy – 10-515-1

Associate Degree – Two Years

Offered in Eau Claire ● August entry date

Description

Respiratory therapists, as members of a team of health care professionals, work to evaluate, treat, and manage patients of all ages with respiratory illnesses and other cardiopulmonary disorders in a wide variety of clinical settings. Respiratory therapists must behave in a manner consistent with the standards and ethics of all health care professionals. In addition to performing respiratory care procedures, respiratory therapists are involved in clinical decision making (such as patient evaluation, treatment selection, and assessment of treatment efficacy) and patient education. The scope of practice for respiratory therapy includes, but is not limited to:

- Assessing the cardiopulmonary status of patients
- Drawing blood samples, performing blood gas analysis, and pulmonary function testing
- Initiating ordered respiratory care, evaluating and monitoring patient responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures and life support endeavors to achieve desired therapeutic objectives
- Providing patient, family, and community education
- Participating in life support activities as required

At graduation, the student is qualified for admission to the entry-level and advanced practitioner examinations to become a registered respiratory therapist. The program is accredited by the Commission on Accreditation of Allied Health Education Programs, on recommendation of the Committee on Accreditation for Respiratory Care (CoARC).

Respiratory Therapy is a full-time program. When a student is admitted as a program student he/she must complete the program as outlined on the program requirement sheet. Certain third and fourth semester clinical sites require travel and overnight stays. Students should be aware that this adds additional expenses to the third and fourth semester.

START DATE(S): August	EFFECTIVE: August 2015

RESPIRATORY THERAPY

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
501-101	Medical Terminology (T)	3	3	
515-111	Respiratory Survey (T, L)	4	3	Program student
515-171	Respiratory Therapeutics 1 (T, L)	4	3	Program student, 515-111, 806-177 or concurrent
801-196	Oral/Interpersonal Communication (T)	3	3	
806-177	General Anatomy & Physiology (T, L)	5	4	High School Chemistry with a "C" or better, (See Prepared Learner Guide)
	Total Credits		**16 cr.**	
	Second Semester			
515-172	Respiratory Therapeutics 2 (T, L)	4	3	Program student, 515-171 or concurrent
515-173	Respiratory Pharmacology (T)	3	3	Program student, 515-111, 806-177
515-174	Respiratory/Cardiac Physiology (T)	3	3	Program student, 806-177
515-176	Respiratory Disease (T, L)	4	3	Program student, 515-111, 806-177
809-198	Introduction to Psychology (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**15 cr.**	
	Third Semester (Summer)			
515-175	Respiratory Clinical 1 (C)	12	2	Program student, 515-173, 515-176, 515-111, (501-101, 515-171, 515-172, 515-174 or concurrent)
806-197	Microbiology	10	4	806-177
	Total Credits		**6 cr.**	
	Fourth Semester			
515-112	Respiratory Airway Management (T, L) ***[1st 8 weeks]***	6	2	Program student, 515-172, 515-174, 515-175, 806-197
515-113	Respiratory Life Support ***[2nd 8 weeks]***	8	3	Program student, 515-172, 515-175, (515-112 or concurrent)
515-178	Respiratory Clinical 2 (C) ***[1st 8 weeks]***	18	3	Program student, 515-175, 806-197
515-179	Respiratory Clinical 3 (C) ***[2nd 8 weeks]***	18	3	Program student, 515-178 or concurrent
801-136	English Composition 1 (T)	3	3	(See Prepared Learner Guide)
809-195	Economics (T)	3	3	(See Prepared Learner Guide)
	Total Credits		**17 cr.**	
	Fifth Semester			
515-180	Respiratory Neo/Peds Care (T, L) ***[1st 8 weeks]***	6	2	Program student, 515-112, 515-113
515-181	Respiratory/Cardio Diagnostics (T, L)	4	3	Program student, 515-113, 515-176
515-182	Respiratory Clinical 4 (C) ***[1st 8 weeks]***	18	3	Program student, 515-112, 515-179
515-183	Respiratory Clinical 5 (C) ***[2nd 8 weeks]***	18	3	Program student, 515-182 or concurrent
809-196	Introduction to Sociology (T)	3	3	(See Prepared Learner Guide)
515-145	Advanced Respiratory Care Topics (T)	2	2	Program student, 515-112, 515-178, 515-179
	Total Credits		**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 70

C =Clinical L = Lab T = Theory/Lecture

Surgical Technologist – 31-512-1

Technical Diploma – One Year

Offered in Eau Claire ● June entry date

Description

If you'd like to be part of a surgical team in an operating room, the Surgical Technologist program could be for you. This career area needs professionals who are:

- Able to maintain the fast pace of the environment
- Willing and able to report for duty when on call
- Physically able to transfer patients
- Able to work standing for long periods of time
- Able to maintain confidentiality
- Able to respond quickly and accurately in times of stress

You will be a part of a surgical team before, during, and after procedures:

- Gather supplies and equipment
- Open sterile supplies
- Scrub, gown, and glove before procedures
- Organize sterile supplies and equipment
- Assist surgeon and assistant don gown and gloves
- Assist with draping the patient
- Pass instruments and assist with procedures
- Clean up or suite and transfer patients

The Surgical Technologist program includes classroom and clinical practice. Clinical sites include facilities in Eau Claire and Chippewa Falls. You are responsible for your own transportation to clinical sites.

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 Board of Surgical Technology and Surgical Assisting national certification exam. Upon successful completion of this test, you can use the title Certified Surgical Technologist (CST).

This Surgical Technologist program is accredited by the Commission on Accreditation of Allied Health Education Programs, www.caahep.org, upon the recommendation of the Accreditation Review Council on Education is Surgical Technology and Surgical Assisting, www.arcstsa.org.

START DATE(S): June	EFFECTIVE: June 2015

SURGICAL TECHNOLOGIST

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester (Summer)			
501-101	Medical Terminology (T, L)	6	3	
806-177	General Anatomy & Physiology (T, L)	10	4	(See Prepared Learner Guide) High school chemistry with a "C" or better
	Total Credits		**7 cr.**	
	Second Semester			
512-327	ST: Introduction to Surgical Technology, (T, L) ***[1st 8 weeks]***	14	4	Program student, 501-101, 806-177, Co-requisite: 512-328, 512-330, 512-331A
512-328	ST: Fundamentals 1, (T, L), ***[1st 8 weeks]***	14	4	Program student, 501-101, 806-177; Co-requisite: 512-327, 512-330, 512-331A
512-331A	Surgical Procedures A, (T, L), ***[2nd 8 weeks]***	7	2	Program student, 501-101, 806-177; Co-requisite: 512-327, 512-330, 512-331A
512-330	ST: Clinical 1, (C), ***[2nd 8 weeks]***	15	3	Program student, 501-101, 806-177, (512-327, 512-328 or concurrent), Co-requisite: 512-331A
801-356	Applied Job/Interpersonal Communication (T)	2	1	
	Total Credits		**14 cr.**	
	Third Semester			
512-329	ST. Fundamentals 2 (T,L) ***[2nd 8 weeks]***	6	2	Program student, 512-328, (512-331B, 512-332 or concurrent), Co-requisite 512-334
512-331B	Surgical Procedures B (T) ***[1st 8 weeks]***	7	2	512-327, 512-328, 512-330, 512-331A, (512-329, 512-332, 512-334, or concurrent)
512-332	ST: Clinical 2, (C), ***[1st 8 weeks]***	24	4	512-330, (512-329 or concurrent), Co-requisite: 512-331B, 512-334
512-334	ST: Clinical 3, (C), ***[2nd 8 weeks]***	24	4	512-331A, (512-332, 801-356 or concurrent)
806-301	Basic Microbiology, (T, L)	4	2	Spring only
	Total Credits		**14 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 35

C =Clinical L = Lab T = Theory/Lecture

Technical Studies - Journeyworker – 10-499-5

Associate Degree – Two Years

Offered in Eau Claire ● August and January entry dates

Description

If you've completed an apprenticeship program in Wisconsin, the Technical Studies - Journeyworker program can lead to an associate degree designed around your individual needs.

This program could be a good match for you if you're seeking career advancement in your professional field. You design your own program so you can meet your educational goals. You may be eligible for advanced standing based on training you've already completed.

If you completed your apprenticeship program outside of Wisconsin, you may still be eligible for the Technical Studies - Journeyworker program.

Past graduates have created programs that helped them gain supervisory and management roles in their chosen career area. The Technical Studies - Journeyworker program may be just what you need to help you take your career to the next level.

START DATE(S): August, January	EFFECTIVE: August 2015

TECHNICAL STUDIES - JOURNEYWORKER

Associate Degree

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
	Wisconsin Journey Certificate - minimum of 400 hours		39	
	Total Credits		**39 cr.**	
	Second Semester			
	Choose 6 credits from the following:			
801-136	English Composition 1	3	3	(Prepared Learner Guide)
801-196	Oral/Interpersonal Communication	3	3	
801-197	Technical Reporting	3	3	801-195 or 801-136 with a grade of "C" or better
801-198	Speech	3	3	
	Total Credits		**6 cr.**	
	Third Semester			
	Choose 3 credits from the following:			
804-107	College Mathematics	3	3	(Prepared Learner Guide)
804-123	Math with Business Applications	4	3	(Prepared Learner Guide)
804-113	College Technical Math 1A	4	3	(Prepared Learner Guide)
804-115	College Technical Math	5	5	(Prepared Learner Guide)
804-118	Intermediate Algebra with Applications	4	4	(Prepared Learner Guide)
804-133	Math & Logic	4	3	(Prepared Learner Guide)
804-189	Introductory Statistics	3	3	(Prepared Learner Guide)
806-134	General Chemistry	5	4	(Prepared Learner Guide)
	Total Credits		**3 cr.**	
	Four Semester			
	Choose 3 credits from the following (Social Science):			
809-122	Introduction to American Government	3	3	(Prepared Learner Guide)
809-128	Marriage and Family	3	3	(Prepared Learner Guide)
809-166	Intro to Ethics: Theory & Applications	3	3	(Prepared Learner Guide)
809-172	Introduction to Diversity Studies	3	3	(Prepared Learner Guide)
809-174	Social Problems	3	3	(Prepared Learner Guide)
809-195	Economics	3	3	(Prepared Learner Guide)
809-196	Introduction to Sociology	3	3	(Prepared Learner Guide)
809-197	Contemporary American Society	3	3	(Prepared Learner Guide)
	Choose 3 credits from the following (Behavioral Science):			
809-188	Developmental Psychology	3	3	(Prepared Learner Guide)
809-198	Introduction to Psychology	3	3	(Prepared Learner Guide)
809-199	Psychology of Human Relations	3	3	(Prepared Learner Guide)
	Choose 6 credits from any of the courses listed in semesters 1-4			
	Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 60

Truck Driving – 30-458-1

Technical Diploma – Less Than One Year

Offered in Eau Claire ● August, January and June entry dates

Description

*This program is partially eligible for student loans.

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, simulation, and on-line instructional 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

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 and advanced training in off-road recovery, evasive maneuvers, controlled braking, and skid control.

This program will be a combination of traditional classroom, lab and online computer-based learning. The first 2 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.

This program could be what you need to begin a rewarding career!

START DATE(S): June, August, January	EFFECTIVE: June 2015

TRUCK DRIVING

Technical Diploma

Full-time Daytime program is 10 weeks in length

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
458-341	Truck Driving 1 (T, L)	-	4	Co-requisite: 458-342, 458-343, 458-344, age 18, Program student
458-342	Truck Driving 2 (T, L)	-	3	Co-requisite: 458-341, 458-343, 458-344, age 18, Program student
458-343	Truck Driving 3 (T, L)	-	3	Co-requisite: 458-341, 458-342, 458-344, age 18, Program student
458-344	Truck Driving 4 (T, L)	-	2	Co-requisite: 458-341, 458-342, 458-343, age 18, Program student
	Total Hrs./Week and Total Credits	**40 hrs.**	**12 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED =12

Welding – 31-442-1

Technical Diploma – One Year

Offered in Eau Claire ● August entry date

Description

If you enjoy problem solving as well as working with your hands, the Welding program could be for you. It combines theory, demonstrations, and hands-on experiences to prepare you to take a welding project from blueprints through final inspection. The Welding program offers training in basic welding techniques you'll rely on in your career:

- Oxyacetylene welding and cutting
- Shielded metal arc welding (SMAW, stick welding)
- Gas metal arc welding (GMAW, MIG, wire-feed)
- Flux-cored arc welding (FCAW)
- Gas tungsten arc welding (GTAW, TIG)

Your training will include advanced welding techniques and credentials such as:

- 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
- OSHA 10 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!

START DATE(S): August	EFFECTIVE: August 2015

WELDING

Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
442-310	Welding Safety and Orientation ***[2 weeks prior to start of semester-32 hrs.]***		1	Program student
442-307	Welding Print Reading	4	2	Program student
442-303	Metals Technology 1	2	1	Program student, 442-310
442-361	Basic Arc Welding	8	4	Program student, 442-303, 442-307, 442-310 or concurrent
442-362	Basic Wire-Feed Welding	8	4	Program student, 442-307, 442-310 or concurrent
457-380	Layout and Fabrication 1/CNC	6	3	Program student, 442-307, 442-310, 442-380 or concurrent
442-380	Industrial Skills – Welders	4	2	Program or pre-program student
	Total Hrs./Week and Total Credits	**32 hrs.**	**17 cr.**	
	Second Semester			
442-301	Welding Metallurgy	4	2	Program student, 442-303, 442-361, 442-362 or concurrent
442-304	Metals Technology 2	2	1	Program student, 442-303 or concurrent
442-360	Robotic Welding	4	2	Program student, 442-361, 442-363 or concurrent
442-363	Advanced Wire-Feed Welding	8	4	Program student, 442-310, 442-362
442-366	Advanced Arc Welding	8	4	Program student, 442-310, 442-361 or concurrent
457-381	Layout and Fabrication 2	4	2	Program student, 442-310, 457-380, 442-363, 442-366 or concurrent
	Total Hrs./Week and Total Credits	**30 hrs.**	**15 cr.**	
	Third Semester (Summer)			
442-364	Gas Tungsten Arc Welding	16	4	Program student, 442-310 or concurrent
442-365	Welding Rigging/Forklift Training	8	2	Program student, or instructor approval
	Total Hrs./Week and Total Credits	**24 hrs.**	**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 38

Welding Fabrication – 32-457-1

Technical Diploma – Two Years

Offered in Eau Claire ● August entry date

Description

This two-year technical diploma in Welding Fabrication will prepare individuals to enter the fields of welding, metal fabrication, production manufacturing, construction, maintenance welding, plus many other opportunities in the career of working with metals.

Students will gain skills and knowledge in advanced welding processes, along with the traditional processes of SMAW, GMAW, FCAW, GTAW, and Oxy-Fuel welding and cutting.

Students will learn to operate/program manual and CNC cutting and forming equipment. Additional areas of study include blueprint reading, computer drafting software, and fabrication techniques. Students will operate and perform advanced manufacturing processes and equipment such as welding robotics 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.

START DATE(S): August	EFFECTIVE: August 2015

WELDING FABRICATION

Two Year Technical Diploma

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Semester			
442-310	Welding Safety and Orientation ***[2 weeks prior to start of semester-32 hrs.]***	16	1	Program student
442-307	Welding Print Reading	4	2	Program student
442-303	Metals Technology 1	2	1	Program student, 442-310
442-361	Basic Arc Welding	8	4	Program student, 442-303, 442-307, 442-310 or concurrent
442-362	Basic Wire-Feed Welding	8	4	Program student, 442-307, 442-310 or concurrent
457-380	Layout and Fabrication 1/CNC	6	3	Program student, 442-307, 442-310, 442-380 or concurrent
442-380	Industrial Skills – Welders	4	2	Program or pre-program student
	Total Hrs./Week and Total Credits	**32 hrs.**	**17 cr.**	
	Second Semester			
442-301	Welding Metallurgy	4	2	Program student, 442-303, 442-361, 442-362 or concurrent
442-304	Metals Technology 2	2	1	Program student, 442-303 or concurrent
442-360	Robotic Welding	4	2	Program student, 442-361, 442-363 or concurrent
442-363	Advanced Wire-Feed Welding	8	4	Program student, 442-310, 442-362
442-366	Advanced Arc Welding	8	4	Program student, 442-310, 442-361 or concurrent
457-381	Layout and Fabrication 2	4	2	Program student, 442-310, 457-380, 442-363, 442-366 or concurrent
	Total Hrs./Week and Total Credits	**30 hrs.**	**15 cr.**	
	Third Semester (Summer)			
442-364	Gas Tungsten Arc Welding	16	4	Program student, 442-310 or concurrent
442-365	Welding Rigging/Forklift Training	8	2	Program student, or instructor approval
	Total Hrs./Week and Total Credits	**24 hrs.**	**6 cr.**	
	Fourth Semester			
442-350	Pipe Welding	8	4	Program student, 442-310, 442-364, 442-373, 442-366 or concurrent
442-373	Welding Applications	8	4	Program student, 442-310, 442-350, 457-372 or concurrent
457-372	Non-Destructive Testing (NDT) & Welding Codes	4	2	Program student, 442-373 or concurrent
801-196	Oral/Interpersonal Communication	3	3	
	Total Hrs./Week and Total Credits	**23 hrs.**	**13 cr.**	
	Fifth Semester			
457-360	Advanced Processes	4	2	Program student, 442-310, (Co-requisite: 457-361, 606-135)
457-361	Advanced Fabrication 1	4	2	Program student, 442-310, 442-365, (Co-requisite: 457-360, 606-135)
606-135	Solid Works for Welders	5	3	Program student, or instructor approval
625-170	Quality Practices and Measurement	2	2	Program student, or instructor approval
804-370	Math Applications for Manufacturing	6	3	442-380
	Total Hrs./Week and Total Credits	**21 hrs.**	**12 cr.**	
	Sixth Semester (Summer)			
457-370	Advanced Fabrication 2	6	3	Program student, 457-361, 606-135
442-371	Advanced Robotic Welding	6	3	Program student, 457-360
	Total Hrs./Week and Total Credits	**12 hrs.**	**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 69

Embedded Technical Diplomas

Accounting Assistant

Do you enjoy working with numbers and supporting a team? As an accounting assistant, you will maintain timely and accurate records of daily business transactions. Examples include: accounts receivable, accounts payable, payroll, inventory management, and other business records. Learn to assist an accountant in preparing important financial statements. You will learn how to compile and report financial data. Students will gain experience with QuickBooks and spreadsheet applications related to business. You'll also learn and practice written, oral, and interpersonal communication skills.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			***Grade of "C" or better for all prerequisites***
101-111	Accounting 1	5	4	
101-106	Accounting Spreadsheets	4	2	101-111 or concurrent
102-160	Business Law	3	3	
801-136	English Composition 1 **OR**	3	3	(See Prepared Learner Guide)
801-219	English Composition 1			(See Liberal Arts Placement Guide)
804-123	Math with Business Applications **OR**	4	3	(See Prepared Learner Guide)
804-189	Introductory Statistics	3		(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**18-19 hrs.**	**15 cr.**	
	Second Term			***Grade of "C" or better for all prerequisites***
101-113	Accounting II	5	4	101-111
101-121	Payroll Accounting	3	3	
101-149	Intro to QuickBooks	4	2	101-111
809-122	Introduction to American Government	3	3	(See Prepared Learner Guide)
	OR			
809-197	Contemporary American Society			(See Prepared Learner Guide)
801-196	Oral/Interpersonal Communication	3	3	
809-195	Economics	3	3	(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits	**21 hrs.**	**18 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 33

Electrical Maintenance

Electrical systems control and actuate most of industrial systems and lines. Knowing how to lockout, isolate faults, test fuses, wire motors, understand and apply electrical principles are required to solve failures in the field. This includes VFDs (variable frequency drives), PLCs (Programmable Logic Controllers) as well as standard motor controls of single and 3-phase motors. Applying learning and developing communication and team skills.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
420-125	Related Machine Tool Concepts	4	2	Program student
462-118	Industrial Electricity Principles	5	3	Program student or instructor approval
462-120	Centrifugal Pumps & Alignment	6	3	Program student, 462-126 or concurrent, or instructor approval
462-121	Repair Automated Manufacturing Equipment	8	4	Program student, 462-118 or concurrent, or instructor approval
462-123	Troubleshooting PLC Systems	6	3	Program student, 462-121 or concurrent, or instructor approval
462-126	Mechanical Alignment & Bearings	4	2	Program student, 462-111, 462-119 or concurrent, or instructor approval
	Total Hrs./Week and Total Credits		**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 17

Information Technology - 3D Simulations

Learner to Design 3D features for video games and web applications. Specify innovative game and role-play mechanics. Lean how to create and maintain design documentation, and collaborate with teams to produce 3D environments. This diploma can be completed in two semesters.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-161	3D Modeling 1 ***[1st 8 weeks]***	6	3	
152-162	3D Game/Simulation Programming ***[2nd 8 weeks]***	6	3	
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Information Technology - Database Specialist

This certification builds on the foundation of programming classes in the User Support Specialist Certificate. Students will develop a solid foundation in basic database design and development – from conventional data analysis through database creation. Students install and configure database management systems that utilize the SQL language to create and manipulate relational databases in both MySQL and MS SQL. Students will learn business intelligence concepts (report-writing, knowledge management, data warehouse, data mining, Olap). 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).

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-136	Database 2 ***[1st 8 weeks]***	8	3	152-132
152-112	Business Intelligence ***[1st 8 weeks]***	8	3	152-132
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Information Technology - Java Programmer

This diploma includes an introduction to Object-Oriented Design and Programming. 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-142	O O Analysis & Design-Java ***[1st 8 weeks]***	8	3	152-101
152-129	Java Web Programming ***[2nd 8 weeks]***	8	3	152-142
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Embedded Technical Diplomas

Information Technology - Microsoft .NET Programmer

This diploma builds on the foundation of programming classes in the IT User Support Technician diploma. Students will: Design, create, and modify .NET based web sites. Analyze user needs to implement web site content, graphics, performance, and capacity. May integrate web sites with other computer applications.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-103	.NET Application Development ***[1st 8 weeks]***	8	3	152-101
152-105	.NET – ASP ***[2nd 8 weeks]***	8	3	152-103
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Information Technology - Mobile Android

Become an Android mobile application developer. Learn about the various stages of development on the Android platform, and study topics related to user interface, application services, security, graphics, data persistence, monitoring tools, mobile app marketing and more. This diploma can be completed in one semester.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-136	Database 2 ***[1st 8 weeks]***	6	3	152-132
152-151	Mobile Application Development-Android ***[2nd 8 weeks]***	6	3	152-129
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Information Technology - Mobile iOS

Learn to develop and market your own iOS applications. Understand the essential components of a well-designed, well-engineered app. Become fluent in the Objective-C programming language. Study the key elements of an interactive and visually appealing user interface. Examine tools and techniques for testing and debugging your apps, and learn ways to market your apps through the iTunes App stores. This diploma can be completed in three semesters.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-114	Objective C Programming-Cocoa ***[2nd 8 weeks]***	6	3	152-142 or concurrent
152-115	Mobile Application Development 1-iOS ***[1st 8 weeks]***	6	3	152-114
152-116	Mobile Application Development 2-iOS ***[1st 8 weeks]***	6	3	152-115
	Total Hrs./Week and Total Credits		**9 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 9

Embedded Technical Diplomas

Information Technology - User Support Technician

The User Support Specialist Certificate prepares individuals to provide technical assistance in resolving software based computer problems in today's digital office environments. This certificate takes one semester to complete.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-107	Web 1 – HTML & CSS ***[1st 8 weeks]***	8	3	Program student
152-101	Programming Fundamentals ***[2nd 8 weeks]***	8	3	Program student
152-132	Database 1 ***[2nd 8 weeks]***	8	3	Program student
	Total Hrs./Week and Total Credits		**9 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 9

Information Technology - Web Development Specialist

This certification builds on the foundation of programming classes in the IT User Support Technician diploma. Students will cover creating dynamic web pages using XHTML and Cascading Style Sheets (CSS). Extend their knowledge into creating dynamic web applications using client-side JavaScript, server-side PHP, and AJAX. Advanced PHP and database drive web application development are explored in depth. An exploration of Macromedia Dreamweaver and Flash is also covered.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
152-108	Web 2 – JavaScript ***[2nd 8 weeks]***	8	3	152-101, 152-107
152-159	Web Multimedia ***[1st 8 weeks]***	8	3	152-108
	Total Hrs./Week and Total Credits		**6 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 6

Mechanical Maintenance

The Mechanical Maintenance is focused on the key areas needed to keep equipment maintained and running. Training includes driveline components (belts, chain, gears, and bearings) as well as basic and precision shaft alignment techniques. Developing communication skills and team skills and working with industrial print reading. Learners will also explore what are the steps and processes of preventative maintenance.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term			
419-116	Basic Hydraulics	4	2	Program student or instructor approval
419-117	Basic Pneumatics	4	2	Program student or instructor approval
442-120	Related Welding- Industrial Mechanic	4	2	Program student or instructor approval
462-111	Mechanical Concepts	4	2	Program student or instructor approval
462-115	Industrial PC Applications	4	2	Program student or instructor approval
462-119	Industrial Mechanical Skills	4	2	Program student or instructor approval
462-130	Industrial Mechanic Prints and Documents	2	2	Program student or instructor approval
625-160	Core Manufacturing Skills	2	2	Program student or instructor approval
	Total Hrs./Week and Total Credits		**16 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 16

Embedded Technical Diplomas

Office Assistant

The Office Assistant program prepares students to perform a variety of administrative tasks in today's rapidly changing office. Students learn to integrate computer, human relations, and communication skills working individually and in a business team environment.

You will develop or enhance the following professional skills in the Office Assistant program. The ability to:

- Keyboard quickly and accurately, using a variety of computer software packages
- Format and produce business documents
- Exhibit excellent customer relations skills in person and over the telephone
- Use accurate filing and records management procedures
- Understand the basics of email and the Internet
- Use spelling, punctuation, and grammar correctly
- Display a professional attitude, appearance, and behavior
- Show your organizational skills
- Communicate effectively in oral and written communication

After successful completion of the Office Assistant Technical Diploma program, the student may apply these credits to the Executive Assistant Associate Degree program and enter the second year of the program.

Course Number	Course Title	Weeks	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term				
106-118	Computer Basics 1	1-4	4	1	
106-150	Office Procedures 1 **AND**	1-4	4	1	
106-165	Office Equipment **OR**	5-8	4		
509-130	Medical Office Procedures		3	2	
106-113	Customer Service 1	5-8	8	1	
106-121	Computer Basics 2	5-8	4	1	106-118 or concurrent
106-152	Job Search-Bus Support Prof. 1	9-12	4	1	
106-114	Customer Service 2	9-12	4	1	
103-102	Microsoft Office Suite	9-16	4	2	
106-110	Business Support Professional Practice 1 (64 hours)	9-16	8	1	103-102, 106-113, 106-114, 106-115, 106-151, 106-152 or concurrent
106-115	Customer Service 3	13-16	4	1	
101-105	Accounting, Intro to **OR**		3	3	
501-101	Medical Terminology **OR**		3		
106-162	Legal Terminology		3		
801-196	Oral Interpersonal Communication		3	3	
	Total Hrs./Week and Total Credits		**15-19 hrs.**	**17 cr.**	
	Second Term				
106-107	Publications	1-4	4	1	103-102
106-122	Document Processing	1-4	8	1	103-102
106-128	Business Words at Work 1	1-4	8	1	103-102
106-116	Database	5-8	8	1	103-102
106-124	Spreadsheets 1	5-8	8	1	103-102
106-129	Business Words at Work 2	5-8	4	1	106-128 or concurrent
106-130	Business Words at Work 3	9-12	4	1	106-129 or concurrent
106-160	Office Procedures 2	9-12	4	1	
106-172	Microsoft Outlook	9-12	4	1	
106-135	Business Support Professional Internship 1 (64 hours)	9-16	9	1	106-107, 106-116, 106-122, 106-124, 106-130, (106-172 or concurrent)
106-111	Business Support Professional Practice 2	13-16	4	1	106-110 or concurrent
106-125	Spreadsheets 2	13-16	8	1	106-124 or concurrent
101-149	Introduction to QuickBooks **OR**		4	2	101-105 or 101-111 with "C" or better
106-182	Legal Computing **OR**		2		
530-103	Medical Insurance & Billing		2		
809-198	Introduction to Psychology **OR**		3	3	(See Prepared Learner Guide)
809-199	Psychology of Human Relations		3		(See Prepared Learner Guide)
	Total Hrs./Week and Total Credits		**21-28 hrs.**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 34

Embedded Technical Diplomas

Office Receptionist

The Receptionist Embedded Technical Diploma (one-semester) program prepares students with basic receptionist skills necessary in today's business office. Those working in this career may be expected to answer the telephone, greet customers, work with basic office equipment, and assist with various administrative support tasks. Students will learn how to interact with customers, perform various office procedures, and utilize computer skills.

After successful completion of the Receptionist Embedded Technical Diploma program, the student has the opportunity to apply these credits to the Office Assistant Embedded Technical Diploma one-year program.

Course Number	Course Title	Weeks	Hrs./ Week	Credits	Prerequisite(s)/Comments
	First Term				
106-118	Computer Basics 1	1-4	4	1	
106-150	Office Procedures 1 **AND**	1-4	4	1	
106-165	Office Equipment **OR**	5-8	4		
509-130	Medical Office Procedures		3	2	
106-113	Customer Service 1	5-8	8	1	
106-121	Computer Basics 2	5-8	4	1	106-118 or concurrent
106-152	Job Search-Business Support Professional 1	9-12	4	1	
106-114	Customer Service 2	9-12	4	1	
103-102	Microsoft Office Suite	9-16	4	2	
106-110	Business Support Professional Practice 1 (64 hours)	9-16	8	1	103-102, 106-113, 106-114, 106-115, 106-151, 106-152 or concurrent
106-115	Customer Service 3	13-16	4	1	
101-105	Accounting, Intro to **OR**		3	3	
501-101	Medical Terminology **OR**		3		
106-162	Legal Terminology		3		
801-196	Oral Interpersonal Communication		3	3	
	Total Hrs./Week and Total Credits		**15-19 hrs**	**17 cr.**	

MINIMUM PROGRAM CREDITS REQUIRED = 17

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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
420-382	Swiss 1	6	3	Certificate student, 420-326, 420-331, 420-367
420-383	Swiss 2	6	3	Certificate student, 420-382
420-381	CAD/CAM for Swiss	6	3	Certificate student, 420-382, 420-383
	Total Credits		**9 cr.**	

TOTAL CREDITS REQUIRED = 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. Fundamental 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 productibility.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
606-161	CAD, Basic	4	3	
606-102	Principles of Design	3	2	
606-104	Geometric Dimensioning & Tolerancing	4	3	
606-130	Solid Modeling I	5	3	
606-131	Solid Modeling II	5	3	606-130
606-160	Manufacturing Materials Processes	3	3	Program/Certificate student
	Total Credits		**17 cr.**	

TOTAL CREDITS REQUIRED = 17

Technical Certificates

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 will be ready to begin working in the Information Technology field.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
150-150	CCNA 1: Introduction to Networks	4	3	Program/Certificate student
150-151	CCNA 2: Routing & Switching Essentials	4	3	*150-150
150-153	CCNA 3: Scaling Networks	3	2	*150-151
150-154	CCNA 4: Connecting Networks	3	2	*150-153
	Total Credits		**10 cr.**	

TOTAL CREDITS REQUIRED = 10

A minimum final grade of "C" is required in all prerequisite courses.

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 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
420-325A	Basic CNC Mill Programming	10	5	Certificate student
420-380A	2-D CAM	4	2	Certificate student, 420-325A
420-330A	Basic CNC Lathe Programming	10	5	Certificate student, 420-325A
	Total Credits		**12 cr.**	

TOTAL CREDITS REQUIRED = 12

Technical Certificates

Critical Care Nursing– TC-543-2

This certificate is restricted to registered nurses with proof of an active license or Chippewa Valley Technical College A**ssociate 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 surgical 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
543-121	Introduction to Critical Care Nursing	4	3	Program/Certificate student, 543-116 or concurrent
543-122	Clinical Practice in Critical Care Nursing (C) (96 hours)		2	Certificate student, 543-121 or concurrent
	Total Credits		**5 cr.**	

TOTAL CREDITS REQUIRED = 5

C =Clinical

Critical Care Transport– TC-531-2

The Critical Care Transport certificate is designed to prepare licensed healthcare professionals to function as critical care transport team members. Critically ill or injured patients requiring transport between facilities need a different level of care from hospital or emergency field patients. This certificate provides students with knowledge of the special assessment techniques and needs of the critical care patient, the ability to operate and troubleshoot critical care transport equipment, and develops the skills necessary to maintain the stability of the critical care patient during transport.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
531-315	Critical Care Transport	6	3	Department Approval
	Total Credits		**3 cr.**	

TOTAL CREDITS REQUIRED = 3

Technical Certificates

Customer Service Representative– TC-160-6

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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
103-102	Microsoft Office Suite	4	2	
106-113	Customer Service 1	8	1	
106-114	Customer Service 2	4	1	
106-115	Customer Service 3	4	1	
106-150	Office Procedures 1	4	1	
106-128	Business Words at Work 1	8	1	103-102
106-129	Business Words at Work 2	4	1	106-128 or concurrent
106-130	Business Words at Work 3	4	1	106-129 or concurrent
	Total Credits		**9 cr.**	

TOTAL CREDITS REQUIRED = 9

Electronics– TC-620-2

This certificate will give individuals a solid foundation in electronics. It will also expose students to basic industrial electricity. It is designed for the beginner that that wants to learn about electronics and electricity as well as someone who is currently working with electronics, but needs to refresh or enhance their abilities.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
605-107	Basic Electronics	5	3	804-113 or concurrent, or instructor approval
605-108	Devices and Digital	5	3	620-107
620-155	Industrial Electronics 1	3	2	
	Total Credits		**8 cr.**	

TOTAL CREDITS REQUIRED = 8

Emergency Department Nursing Certificate– 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 Advanced Cardiac Life Support (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 Introduction to Emergency Department Nursing (includes ACLS course and EKG Basics). The clinical experiences will be offered at a variety of clinical facilities, course number 543-167 Clinical Practice in Emergency Department Nursing. 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 Introduction to Emergency Department Nursing.

Course Number	Course Title	Credits	Prerequisite(s)/Comments
543-166	Introduction to Emergency Department Nursing	3	Program/Certificate student, 543-116 or concurrent
543-167	Clinical Practice in Emergency Department Nursing	2	Certificate student, 543-166 or concurrent
	Total Credits	**5 cr.**	

TOTAL CREDITS REQUIRED = 5

Emergency Medical Technician– TC-531-1

The Basic 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. EMT IV Tech 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 Number	Course Title	Hrs.	Credits	Prerequisite(s)/Comments
	Choose 1 course(s) from the following:			
531-110	Emergency Medical Technician	160	5	
531-340	Advanced EMT	90	3	
	Total Credits		**3 cr.**	

TOTAL CREDITS REQUIRED = 3

Technical Certificates

Entertainment, Sports, and 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
104-102	Marketing Principles	3	3	
104-104	Professional Selling	3	3	
104-111	Consumer Behavior	3	3	
104-125	Advertising	4	3	104-102
104-160	Entertainment, Sports, and Event Marketing	3	3	104-102, 104-125
	Total Credits		**15 cr.**	

TOTAL CREDITS REQUIRED = 15

Fluid Power Maintenance– TC-462-1

Hydraulic and Pneumatic devices do the heavy lifting and movement of automation and industrial work. Understanding the principles of these technologies is essential to maintenance. Students advance from basics to advanced devices in these technologies. Applying learning, developing communication skills, and team skills. Topics of pressure, flow, horsepower, speed, directional control valves, sequence and pressure relief as well as pilot operated checks, accumulators, and common applications. Identifying failures, fittings, and correct parts and applying theory in industrial settings.

Course Number	Course Title	Credits	Prerequisite(s)/Comments
419-116	Basic Hydraulics	2	Certificate student
419-102	Hydraulic System Operations	2	Certificate student, 419-116 or instructor approval
419-117	Basic Pneumatics	2	Certificate student
419-118	Pneumatic System Operations	2	Certificate student, 419-117 or instructor approval
625-160	Core Manufacturing Skills	2	Program/Certificate student
	Total Credits	**10 cr.**	

TOTAL CREDITS REQUIRED = 10

Technical Certificates

Human Resource Generalist– TC-116-2

This certificate is designed for supervisors or employees who desire or have recently taken on Human Resource responsibilities. The concepts covered in the certificate would also serve those who are looking for a career change or a comprehensive overview of Human Resources, outside their current specialty area. The certificate consists of six three-credit courses. The first course to be taken should be 116-193, Intro to Human Resources, as it is a prerequisite for all other courses. Each course is conveniently offered in multiple delivery formats.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
116-193	Intro to Human Resources	3	3	
116-111	Performance Management & Employee Reward Systems	3	3	
116-112	Training Systems	3	3	
116-110	Employee Benefits	3	3	116-193 (or 102-111 or 196-193)
116-113	Human Resource Law	3	3	116-193 (or 102-111 or 196-193)
116-114	Recruitment & Selection	3	3	116-193 (or 102-111 or 196-193)
	Total Credits		**18 cr.**	

TOTAL CREDITS REQUIRED = 18

Information Technology - Network Support Associate– TC-150-2

Completion of this certificate prepares the learner to perform basic installation, configuration, and support of Unix/Linus, 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
150-123	IT Networking Concepts	4	3	Program/Certificate student
150-120	Network Diagramming	2	1	Program/Certificate student
150-150	CCNA 1: Introduction to Networks	4	3	Program/Certificate student
150-134	Network Infrastructure Concepts	3	2	Program/Certificate student
150-160	Network Directory Services	4	3	Program/Certificate student; 150-123, 150-150
150-165	MS Windows Network Administration	4	3	150-123, 150-150
150-175	Unix System Administration	4	3	150-123, 150-150
150-143	Computer Hardware	6	4	150-123, 150-134
	Total Credits		**22 cr.**	

TOTAL CREDITS REQUIRED = 22

Technical Certificates

Leadership/Supervision– TC-116-1

No matter what your career, success depends on demonstrating good leadership skills in a very competitive workplace. This certificate will provide you with the skills and understanding necessary to become more effective in leadership positions in business, industry, government, and healthcare. Increase your knowledge in personal leadership, new management principles, ethics, and employee performance techniques. Courses in this certificate are offered at varying times and delivery methods to accommodate your needs.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
116-190	Leadership Development	3	3	
102-112	Principles of Management	3	3	
116-111	Performance Management & Employee Reward Systems	3	3	
102-113	Business Ethics	3	3	
	Total Credits		**12 cr.**	

TOTAL CREDITS REQUIRED = 12

Manufacturing Quality– TC-625-2

This certificate provides developmental knowledge and skills for a manufacturing technician to evaluate hardware documentation, perform laboratory procedures, inspect products, measure process performance, record data, and prepare formal reports. The learner will apply common quality and lean tools, examine tool applications, and be able to participate in quality improvement projects. Technical skills will be developed in math, quality fundamentals, lean fundamentals, print specifications, quality standards, and coordinate measurement inspection tools.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
804-115	College Technical Math 1 **OR**	5	5	(See Prepared Learner Guide)
804-113	College Technical Math 1A **AND**	4	3	(See Prepared Learner Guide)
804-114	College Technical Math 1B	3	2	804-113
804-189	Introductory Statistics	3	3	(See Prepared Learner Guide)
623-130	Lean Fundamentals	2	2	
606-104	Geometric Dimensioning & Tolerancing	4	3	
625-110	Manufacturing & Quality Assurance	3	3	804-189
420-373A	Precision Measurement	2	1	Certificate student, 606-104 or 606-185
	Total Credits		**17 cr.**	

TOTAL CREDITS REQUIRED = 17

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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
104-102	Marketing Principles	3	3	
104-104	Professional Selling	3	3	
104-105	Marketing Research	4	3	104-102
104-125	Advertising	4	3	104-102
104-183	Marketing Management	3	3	104-102, 104-105, 104-125
	Total Credits		**15 cr.**	

TOTAL CREDITS REQUIRED = 15

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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
150-120	Network Diagramming	2	1	Program/Certificate student
150-150	CCNA 1: Introduction to Networks	4	3	Program/Certificate student
150-151	CCNA 2: Routing and Switching Essentials	4	3	150-150
150-183	Wireless Networking	3	2	150-151 (or 605-109)
150-170	Computer Maintenance and Support	5	3	150-143 (or 605-109 or 605-123)
	Total Credits		**12 cr.**	

TOTAL CREDITS REQUIRED = 12

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. 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 Number	Course Title	Credits	Prerequisite(s)/Comments
	First Semester (Fall)		
110-101	Introduction to Paralegal & Legal Ethics	3	
110-102	Civil Litigation I	3	Fall only
110-104	Legal Research	3	Fall only
	Choose 3 credits from the following:		
110-114	Administration of Estates **OR**	3	Fall only, 110-103
110-168	Criminal Law-Paralegal		Fall only, 110-103
	Total Credits	**12 cr.**	
	Second Semester (Winter/Spring)		
110-103	Civil Litigation II	3	Spring only, 110-102, 110-104, (801-136 or 801-219, or BA or BS)
110-105	Legal Writing	3	Spring only, 110-102, 110-104, (801-136 or 801-219, or BA or BS)
	Choose 3 credits from the following:		
110-106	Family Law **OR**	3	Spring only, 110-102, 110-104, (801-136 or 801-219, or BA or BS)
110-107	Legal Aspects of Business Orgs		Spring only, 110-103
	Choose 3 credits from the following:		
110-142	Paralegal Internship (144 hours off campus work exp.) **OR**	3	110-101, 110-103 & 110-105 & (110-114 or 110-168)
110-143	Paralegal Field Study (144 hours independent study)		110-101, 110-103 & 110-105 & (110-114 or 110-168)
	Total Credits	**12cr.**	

Classes are restricted to the Paralegal Program & Paralegal Post-Baccalaureate Certificate.
TOTAL CREDITS REQUIRED = 24

Professional Selling– 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 Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
104-102	Marketing Principles	3	3	
104-104	Professional Selling	3	3	
104-111	Consumer Behavior	3	3	
104-140	Business to Business Selling	3	3	104-104
	Total Credits		**12 cr.**	

TOTAL CREDITS REQUIRED = 12

Programmable Logic Controller– TC-620-1

This certificate will allow the working technician or manufacturing supervisor to enhance their skills to troubleshoot, modify, or enhance automated systems that use programmable logic controllers. Skills in programming, troubleshooting, SCADA, HMI, and networked PLC concepts using the Rockwell Logix family of PLCs and exposure to additional PLC platforms are taught.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
620-155	Industrial Electronics I	3	2	
620-135	PLC Introduction	3	2	620-155 or instructor approval
620-136	PLC Applications	6	3	620-135
605-152	SCADA Concepts	4	2	620-136
620-148	Electromechanical Systems Interfacing	8	4	620-136
	Total Credits		**13 cr.**	

TOTAL CREDITS REQUIRED = 13

Promotional Design– TC-104-6

This certificate is designed to develop skills that are needed to create effective integrated marketing communication campaigns including: understanding customer insight, segmenting and targeting, positioning a brand, identifying campaign objects, developing creative media strategies, determining the best way to evaluate and measure the effectiveness of you IMC effort. In addition you will learn media creation such as website development, promotional design, and professional presentations.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
104-102	Marketing Principles	3	3	
104-125	Advertising	4	3	104-102
104-109	Social Media Marketing Strategy	2	2	104-102, 104-125
104-126	Promotional Design	3	3	104-102, 104-125
	Total Credits		**11 cr.**	

TOTAL CREDITS REQUIRED = 11

Pumping Systems Maintenance– TC-462-2

Centrifugal pumps are the movers of most processes. Understanding how pumps work, what it takes to install and maintain pumps is essential in maintenance. Training includes driveline components (belts, chain, gears, and bearings) as well as basic and precision shaft alignment techniques. Developing communication skills and team skills and working with industrial print reading. Learners will also explore what are the steps and processes of preventative maintenance.

Course Number	Course Title	Credits	Prerequisite(s)/Comments
462-111	Mechanical Concepts	2	Certificate student
462-120	Centrifugal Pumps & Alignment	3	Certificate student
462-126	Advanced Mechanical Concepts	2	Certificate student, 462-111 or concurrent
462-130	Industrial Mechanical Prints & Documents	2	Certificate student
625-160	Core Manufacturing Skills	2	Program/Certificate student
	Total Credits	**11 cr.**	

TOTAL CREDITS REQUIRED = 11

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 small business.

Course Number	Course Title	Hrs./ Week	Credits	Prerequisite(s)/Comments
102-130	Business Management	3	3	
104-102	Marketing Principles	3	3	
104-104	Professional Selling	3	3	
104-125	Advertising	4	3	104-102
	Total Credits		**12 cr.**	

TOTAL CREDITS REQUIRED = 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 Number	Course Title	Credits	Prerequisite(s)/Comments
103-102	Microsoft Office Suite	2	
106-122	Document Processing	1	103-102
106-107	Publications	1	103-102
106-124	Spreadsheets 1	1	103-102
106-125	Spreadsheets 2	1	106-124 or concurrent
106-116	Database	1	103-102
106-172	Microsoft Outlook	1	
106-169	Applied Software	1	106-125, (106-107, 106-116, 106-122, 106-124, 106-130, 106-172 or concurrent)
	Total Credits	**9 cr.**	

TOTAL CREDITS REQUIRED = 9

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.

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.

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 & Plantscaping **2 cr**
This course covers topics in foliage plant characteristics, requirements, and identification. Particular attention is placed upon identification of foliage plant material and the classification of these materials according to cultural and interior use characteristics.

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.

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.

001-125 Horticulture Equipmnt & Safety **2 cr**
Focuses on how to maintain and operate a skid steer loader, forklift, til-handlers, turf mowing equipment and general landscape equipment.

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.

006-151 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) a web enhanced portion, 3) discussion concerning the identification and management of pests, 4) field applying approved scouting practices, and 5) discussing problems brought in from the field--weeds, diseases, insects, etc.

006-166 Computer Applic-Agronomy **2 cr**

This course will focus on the use of commercial computer software programs specifically designed to facilitate crop production and management. Specific software packages the student will work with include: Agrisource, Nutri-Plan, SNAP; and may include introduction to: Select, ABCS, MACHCOST, and other software which comes available.

006-168 Row Crop Management **2 cr**

This course will focus on the cultural practices important in the profitable production of row crops common to Wisconsin (corn and soybeans). Specific attention will be given to seed bed preparation, planting, variety selection, fertilization, weed control, insect control, disease control, harvesting, drying and storing corn and soybeans. Budgeting the row crop enterprise will be covered in instruction.

006-169 Forage Crop Management **2 cr**

Cultural practices; varietal selection; calculations of forage quality; forage stand evaluation.

006-180 Animal Science **3 cr**
Provides fundamental knowledge of the animal science field. Topics include animal health, animal environments, anatomy and physiology, genetics and reproduction, animal feedstuffs, and job-related safety. Participants will experience animal concepts through the completion of hands-on activities.

006-182 Animal Reproduction **3 cr**
Reproductive process in animals; conception, fetal development.

006-184 Herd Health & Sanitation **2 cr**
Maintain healthy dairy herd; reducing somatic cell count; role of vaccines, antibiotics, and probiotics.

006-186 Managing Youngstock & Dry Cows **1 cr**
Non-lactating cow to calving, raising heifers to parturition.

006-188 Feed Analysis **2 cr**
Dairy feeds; quality and nutritional value.

006-189 Ration Formulation **2 cr**
Nutritional requirements for growth, reproduction and lactation stages.

006-190 Agriscience Internship **3 cr**
Individuals participating in a work experience will have opportunity to practice acquired skills and knowledge from their program coursework. This course is designed to help the student, instructor, and site supervisor to focus on major outcomes of the training and general readiness for employment in their chosen field.

090-Farm Business Management

090-310 Farm Bus Planning & Risk Mgmt **4 cr**
Emphasizes management skills and concepts necessary for farming in today's changing technology and farm business financing. Organize and maintain farm business records, interpret and analyze the records to assist in making sound farm management decisions. Entire farming operation is assessed and plans are developed for future needs, goals and objectives.

090-315 Farm Business Planning **2 cr**
This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on developing a farm business plan and implementing a farm record keeping system. The course will consist of two one-on-one farm session of four hours each. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work.

090-330 Precisn Agronomics&Energy Mgmt **4 cr**
Crop management, including planning, planting, care, harvesting, storage, and marketing.

090-335 Nutrient Management Planning **2 cr**

This course is intended for current Farm Business Production Management students requesting additional one-on-one educational time. Emphasis will be on updating and interpreting a farm nutrient management plan. It may include tours, field trips, seminars, and workshops in addition to one-on-one interaction. The course allows students to work on independent-type projects for their farm operation and may include phone and computer-based contact as needed during the implementation of the course work.

090-340 Livestock Nutrition & Reproductn **4 cr**

Apply livestock nutrition principles and complete a farm business analysis.

090-350 Farm Bus Analysis&Mrkt Strat **4 cr**

Computerized financial records, credit, budgeting, farm estate planning, financial analysis, and risk management.

090-360 Livestk Fac,Health&Biosecurity **4 cr**

Dairy production including housing young stock, breeding and sire selection, herd health, quality milk production, and marketing.

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.

101-Accounting

101-104 Database for Accounting **2 cr**

This course introduces intermediate Microsoft Access concepts with accounting applications. Students will create forms, sub forms, and reports for accounting applications. Students will also learn to use the switchboard manager, create macros, create charts, and administer a database system. In addition, students will also be introduced to PDF applications used for reporting accounting information.

101-105 Accounting, Intro to **3 cr**

This is an introductory course designed to introduce the learner to the basic accounting language and concepts of business entities. Skills such as, analyzing business transactions, applying fundamental accounting concepts, identifying accounting control procedures, and evaluating financial statements will be developed. This course is intended for the non-accounting major.

101-106 Accounting Spreadsheets **2 cr**

This course introduces students to intermediate Excel concepts with accounting applications. Students will utilize a variety of financial analysis, and database functions as they create, format, and modify worksheets in Excel.

Course Descriptions

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.

101-116 Intermediate Accounting **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.

101-118 Managerial Accounting **4 cr**

This course develops financial skills to enable better managerial decision-making for business entities by using financial statements to control activities such as forecasting financial results; modifying capital structure for efficiency; structuring working capital for maximum performance; rating capital budgeting proposals; preparing operating cash, and capital budgets; and evaluating long-term financing alternatives.

101-121 Payroll Accounting **3 cr**

The learner will make the necessary payroll calculations and record keeping, including social security taxes, income tax withholdings, and other deductions. They will also maintain employee earnings records, record journal entries and generate payroll reports. A comprehensive payroll project is required.

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.

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.

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.

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.

101-133 Acct Govt & Nonprofit Entities **2 cr**

This course introduces the learner to fund based accounting concepts used by governmental units, non-profit organizations, and healthcare entities in accordance with GASB. We will explore the governmental fund accounting cycle starting with budgetary requirements, recording journal entries, and concluding with reporting for the various fund types. Accounting and reporting activities for non-profit organizations, including healthcare entities, will be explored.

101-149 Intro to QuickBooks **2 cr**

This is a computerized accounting course where the student is expected to have a basic understanding of the accounting fundamentals to be applied to the QuickBooks bookkeeping system. The learner will post transactions within the system including receipting for cash sales and sales on account as well as purchasing on account and with cash. The learner will also perform the bank reconciliations and financial statement preparation with the QuickBooks system.

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 Prostudent software. These software packages are included with the textbook.

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.

101-184 Business Finance & Budgeting **2 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.

Course Descriptions

102-Business Administration

102-109 Business Analytics **3 cr**

Students will build on existing software skills to develop the expertise business managers use to perform tasks for which a computer is the primary tool. Students will enhance their hands-on ability with current software packages that may include Word, Excel, Access, and PowerPoint. Activities focus on using the software in an integrated manner to effectively and efficiently to address typical business management situations.

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. Students gain insight into personal behaviors and how to turn managerial theories into personal managerial practices.

102-113 Business Ethics **3 cr**

Stresses how ethics apply specifically to business managers, management practices, and business activities. Reviews ethical responsibilities and relationships between organizational departments, divisions, business management, and the public. In case studies and discussion groups, students weigh the pros and cons of particular courses of action that affect the individual and corporate enterprise.

102-114 Managing Operations **3 cr**

Designed for mid-management careers, this course emphasizes practice of management skills. Topics covered include: strategic process management, manufacturing systems, operations strategy, product design, process technology selection, capacity planning, resource planning and scheduling, inventory control, project management and quality/productivity improvement tools and strategies.

102-115 Business Mgmt Internship **1 cr**

Provides the student with 80 hours of on-site experience completing managerial-type tasks in a professional office. Students may prepare training sessions, analyze budgets and prepare recommendations, draft reports, develop interview questions, screen resumes, complete project management tasks, plan events, or perform other responsibilities typical of business managers. Students coordinate with the instructor to locate an appropriate internship site. Course to be taken during the final semester.

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.

102-117 Business Mgmt Capstone **2 cr**

To prepare for the business management internship, students produce all documentation related to the job-seeking process and participate in activities with business professional to polish students' job-seeking skills. Students meet once a week with the instructor to discuss techniques for getting and keeping a job and other career-enhancing strategies. Take during the final semester.

102-130 Business Management **3 cr**

This course will cover many different topics related to a small business. Areas to be discussed include the definition of a small business, what is an entrepreneur, how to start a business from start to finish, managing a business, and developing a business plan.

102-132 Leadership for Bus Excellence **3 cr**

This course will focus on leadership excellence at an organizational level. Specifically, the course will focus on the leader as a strategist (strategic planning, goal setting, continuous improvement); the leader as a collaborator (communication skills, problem solving/change management, organizational framework); and the leader as a community member (interpersonal skills; communication skills, social responsibility). Students will examine these roles to understand how leaders can shape businesses, and add value at an organizational level.

102-150 Global Business **3 cr**

Provides students with a basic understanding of the global economy and how companies do business in it. Areas of study include trends in world trade and investment, economic relationships among nations, international finance and currency exchange, government regulations and tariffs, communications and language barriers, and national customs.

102-160 Business Law **3 cr**

Business Law is designed to help the student develop an understanding of the law and the relationship of the legal system to the business world. After consideration of the legal system, the course reviews contracts, sales and lease contracts, warranties, product liability, consumer law, bailments, creditors' rights, and bankruptcy.

102-188 Project Management **3 cr**

The learner applies the skills and tools necessary to design, implement, and evaluate formal projects. Each learner will demonstrate the application of the role of project management by developing a project proposal, using relevant software, working with project teams, sequencing tasks, charting progress, dealing with variations, budgets and resources, implementing a project, and assessing the outcome.

102-302 Salon Business Operations **2 cr**

This course provides a comprehensive study of salon management for the cosmetology student in areas of business management. Topics of this course include: an overview of salon management/ownership responsibilities, decision making in business, business planning, and financial management.

102-306 Salon Business & Mktg **1 cr**

This course provides marketing skills, salon management, and the operation of a salon/spa business. Students evaluate merchandising displays, improve retail profits, and investigate various advertising

and marketing media. Students learn an overview of salon management/ownership responsibilities, decision making in business, promotion, and positive customer relationships.

103-Computer Software

103-102 Microsoft Office Suite **2 cr**

The goal of this course is to provide an introduction to Microsoft Office Suite and how it is used in academic, personal, and business environments. The students will become familiar with the Office user interface and use it as they work with Word, PowerPoint, Excel, and Access. Navigate the Office interface by using tabs, ribbons, and groups.

103-103 Keying and Data Entry **1 cr**

In this course students will focus on increasing efficiency and accuracy in keying and data entry.

104-Marketing & Merchandising Mgmt

104-102 Marketing Principles **3 cr**

Marketing of products and services. Concentrates on product, price, place, promotion, market segmentation, target marketing, pricing, market research, physical distribution and distribution channels.

104-104 Professional Selling **3 cr**

Acquaints the student with qualifications and personality types needed for selling. Analyzes the basic selling steps - prospecting, preapproach, approach, presentation, handling concerns, closing and follow-up.

104-105 Marketing Research **3 cr**

To create greater awareness of the process of marketing research including surveys, focus panels, sampling procedures, and the general steps in doing marketing research. Marketing decisions and problem-solving skills will be improved. Micromarketing and databases are included.

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.

104-109 Social Media Mktg Strategy **2 cr**

Social media may seem spontaneous, but for successful organizations, it is not. This course emphasizes research, critical thinking, training, and profiling required in determining which social networks to use. After networks are determined, students plan campaign and general messages designed to better connect with audiences, deepen relationships, and drive profits. We use case studies and real world examples to learn from successes and failures.

Course Descriptions

104-125 Advertising **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.

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.

104-140 Business to Business Selling **3 cr**

Emphasizes sales process including the approach, interviewing, demonstrating, negotiating, validating, and closing. The goal is detailed role playing in a 'nonretail' environment.

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.

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.

104-169 Marketing Internship **1 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.

104-182 Personal Branding **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.

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.

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.

106-Office Systems/Technology

106-100 Web Technologies 1 **1 cr**

This course provides students with a basic understanding of how different types of web tools are used in business. Social and business web tools will be explored.

106-102 Web Technologies 2 **1 cr**

This course introduces various tools used to create, design, and update web pages.

106-107 Publications **1 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 publications.

106-110 Bus Support Prof. Practice 1 **1 cr**

This course is the first in a series that will provide students the opportunity to explore various business support professional careers. Topics explored include career expectations, responsibilities, technical skills, employment opportunities, and professional resources.

106-111 Bus Support Prof. Practice 2 **1 cr**

This course is the second in a series that will provide students the opportunity to explore various business support professional careers and to develop a career plan. In this course students will enhance career skills, examine business etiquette, and model the level of professionalism required to be a successful business support professional.

106-112 Bus Support Prof Practice 3 **1 cr**
This course is the third and final course in a series that will provide students the opportunity to explore various business support professional careers. Students will examine workplace issues, explore professional development opportunities, and evaluate educational and professional resources.

106-113 Customer Service 1 **1 cr**
This course is the first in a series that provides students the opportunity to develop customer service skills. Students in this course will work to define customer service, identify customers and effective customer service strategies, and examine factors that impact customer service.

106-114 Customer Service 2 **1 cr**
This course is the second in a series that provides students the opportunity to develop customer service skills. Students in this course will examine the relationship between communication skills and quality customer service.

106-115 Customer Service 3 **1 cr**
This course is the third and final course in a series that will provide students the opportunity to develop skills and abilities related to providing exceptional customer service. Students in this course will develop the skills necessary to be successful in providing quality customer service in challenging situations or with difficult customers.

106-116 Databse **1 cr**
This course incorporates database skills including how to plan, create, and manage data. Students will apply software features to the successful completion of business-related projects and scenarios.

106-118 Computer Basics 1 **1 cr**
This course is the first in a series that provides students an opportunity to develop basic computer skills and knowledge. Topics addressed in this course include basic computer terminology and operations, the use of common computing devices and related equipment, and basic file management practices.

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.

106-121 Computer Basics 2 **1 cr**
This course is the second and final course in a series that provides students an opportunity to develop basic computer skills required for today's working professional. Specific skills addressed in this course include use of the Internet, email functions, exploration of software, and computer troubleshooting.

106-122 Document Processing **1 cr**
This course provides students with opportunities to learn how to use advanced word processing applications. Students will use advanced word-processing features to create forms, templates, long documents, merged documents, and tables.

Course Descriptions

106-124 Spreadsheets 1 **1 cr**
This is the first course in a sequence that develops advanced skills in the use of spreadsheet software. Students will use spreadsheet software to create multi-sheet workbooks, tables and charts, and apply database features used in various situations.

106-125 Spreadsheets 2 **1 cr**
This is the second course in a sequence that develops advanced skills in the use of spreadsheet software. Students will use advanced formulas, functions, and features. Students will also design spreadsheet templates used in various business situations.

106-128 Business Words at Work 1 **1 cr**
This is the first course in a sequence that develops students into successful communicators in the business office. Students will develop proofreading skills, apply grammar skills, examine formats, and identify word usage errors in a variety of business documents.

106-129 Business Words at Work 2 **1 cr**
This is the second course in a sequence that develops students into successful communicators in the business office. Students will apply proofreading and grammar skills as they analyze word usage errors and critique and edit a variety of business documents.

106-130 Business Words at Work 3 **1 cr**
This is the third course in a sequence that develops students into successful communicators in the business office. The course will include intense drill and review of proofreading, editing, and formatting. Students will use these skills to properly format and compose a variety of business documents.

106-133 Project Planning **1 cr**
In this course students will learn to plan and coordinate projects by analyzing the project planning process, identifying project planning tools and resources, investigating electronic planning tools, and constructing a project timeline.

106-135 Bus Support Prof. Internship 1 **1 cr**
Students will work closely with business professionals to develop career skills. The process will encourage professionalism and provide an opportunity for development of positive work habits. This supervised internship allows students to experience a job situation related to the diploma degree program and business support careers such as receptionist and office assistant.

106-150 Office Procedures 1 **1 cr**
This course is the first in a series that provides students with the opportunity to develop the general office skills used by business support professionals. Students will develop phone skills, learn how to process mail, handle records, and perform basic bookkeeping tasks.

106-152 Job Search-Bus Support Prof 1 **1 cr**
This course is the first in a series that explores a broad range of job search techniques including researching opportunities, compiling appropriate information for job applications, creating cover letters and resumes, and preparing for interviews. This course promotes overall understanding of the job search process.

Course Descriptions

106-155 Job Search-Bus Support Prof 2 **1 cr**
This course is the final in a series that explores a broad range of job search techniques including refining job search documents, researching opportunities, compiling appropriate information for job applications, participating in interviews, and applying post-interview strategies.

106-156 Records Management **1 cr**
In this course students will learn about records management systems and guidelines, how to select appropriate methods for data/file storage and backup, and information related to records retention.

106-158 Meeting & Event Planning **1 cr**
This course focuses on preparing the learner to plan business events. Topics include aspects of the event management process such as: goal setting and objectives, establishing an event theme, planning event logistics, facility set up, and follow-up activities. Professional behaviors will be encouraged and evaluated.

106-160 Office Procedures 2 **1 cr**
This course is the second in a series that provides students with the opportunity to develop the general office skills used by business support professionals. Students will develop skills related to financial reports and procedures, office inventory, and research.

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.

106-165 Office Equipment **1 cr**
This course provides students with exposure to and/or experience in using a variety of business office equipment.

106-167 Office Procedures 3 **1 cr**
This course is the third and final course in a series that provides students with the opportunity to develop the general office skills used by business support professionals. Students will develop skills related to budgeting, arranging travel, preparing meeting minutes, and practicing community relations.

106-168 Bus Support Prof Internship 2 **1 cr**
During this course students will put into practice, at a business site, knowledge and skills learned from courses in the associate degree program. This supervised internship allows students to experience a job situation that is related to the associate degree program and business support professional careers such as administrative professional and executive assistant.

106-169 Applied Software **1 cr**
Students in this course will build on existing software skills to develop the expertise business support professionals use to perform various office tasks. Students will use software to complete business-related projects and scenarios.

106-172 Microsoft Outlook **1 cr**
In this course students will utilize Microsoft Outlook to communicate by email, schedule appointments, and manage contact lists, tasks, and notes. Students will apply software features to the successful completion of business-related projects and scenarios.

106-182 Legal Computing **1 cr**
In this course learners will develop skills using various computer applications required in a law office. Some of the skills learners will develop will be in timekeeping and billing, case management, docket control, electronic discovery, litigation support, and computer-assisted legal research.

107-Information Technology

107-123 Computer & Oper Sys Concepts **3 cr**
Provides a strong foundation in computer concepts and operating systems. Through lecture, demonstration, and lab exercises, students learn operating system concepts, file management, various DOS commands, Windows, and computer hardware.

110-Paralegal

110-101 Paralegal & Legal Ethic, Intro **3 cr**
An introduction to the legal profession, the courts, legal ethics, legal terminology, research, and the role of paralegals.

110-102 Civil Litigation I **3 cr**
The initial procedures associated with the preliminary stages of civil litigation, including pleadings, discovery, and motions.

110-103 Civil Litigation II **3 cr**
This course demonstrates the substantive law, process and procedure, and typical recurring tasks relating the post-pleadings stages of civil litigation. These include evidence, discovery (depositions, interrogatories, physical and mental exams, requests for admissions) methods of case resolution (judgment, settlement, dismissal, and alternative disputes, and requests for admissions) methods of case resolution (judgment, settlement, dismissal, and alternative dispute resolution) trial practice, post-trial and post-judgment matters, and appellate procedure.

110-104 Legal Research **3 cr**
An application of legal research techniques, using traditional and computer-assisted resources.

110-105 Legal Writing **3 cr**
An advanced writing course concentrating on legal correspondence, forms, memoranda, and briefs.

110-106 Family Law **3 cr**
Basic legal concepts in the area of family relations, including premarital agreements, parental rights, and divorce.

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.

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.

110-114 Administration of Estates **3 cr**
Basic legal concepts of intestacy and testacy, including probate forms and procedures.

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.

110-122 Debtor and Creditor Relations **3 cr**
A review of legal issues involving debtors, creditors, and third parties.

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.

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.

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.

110-160 Employment Law **3 cr**
Analysis of federal and state laws governing employment relationships.

110-168 Criminal Law-Paralegal **3 cr**
Analysis of federal and state laws governing employment relationships.

110-170 Contract Law **3 cr**
A course involving the formation, interpretation, and drafting of contracts.

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.

116-Human Resources

116-110 Employee Benefits **3 cr**

In this course we will examine the wide range of employee benefit programs available today. We will study the types of benefits required by law, the discretionary benefits that employers may offer, the employee services available, and the ever dynamic retirement programs offered today. An emphasis will be on health insurance plans, cafeteria and wellness plans, and a functional approach to employee benefit planning. A course outcome will be evaluating and assessing a company-sponsored benefit plan.

116-111 Perform Mgmt & Empl Reward Sys **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.

116-112 Training & Development **3 cr**

This course provides an in-depth look at the process of employee training and development. Topics include training methods, strategic training goals, needs assessment, adult learning, training evaluation, employee orientation, selecting trainers and trends in training and development. The emphasis of this course will be on the effective delivery, assessment and application of training in the workplace. The culmination of the course is delivering a training presentation.

116-113 Human Resource Law **3 cr**

In today's litigious workplace environment, understanding legal issues that directly affect individual employees and employer organizations is critical to success as a human resources professional. In this comprehensive and interactive HR Law course, students examine best practices for preventing, identifying and managing employee related issues that have potential legal concerns. Topics include legalities in hiring practices, discrimination and harassment issues, wage and hour matters, family and medical leave, the right to organize, employment-at-will and wrong-full discharge, privacy rights, and a basic introduction to state employment laws. Using a case study approach, students will be able to apply legal concepts to daily business operations and human resources policy matters.

116-114 Recruitment & Selection **3 cr**

In this course we will learn the importance of human capital and its impact on organizational success. Recruiting and interviewing employees are critical for an employer's success. Topic areas covered include recruitment, selection, career development, legal issues associated with selecting employees, and roles in the selection process. An emphasis will be on strategies associated with selecting and

developing of employees for organizational success. Students will be required to participate in mock interviews and networking opportunities.

116-127 Employee Relations **2 cr**

Today's workforce places high expectations on their Human Resource department from communication and advice on confidential matters to recommending specific benefit options. In addition, employers expect the Human Resource department to be highly professional and competent in good employee relations. As a result, this course covers the following topics; customer service techniques, professional etiquette, confidentiality requirements, different work cultures and generational attitudes, and career paths in the Human Resource field.

116-128 Human Resources Internship **1 cr**

This course culminates the Human Resources program with a minimum of 72 hours of HR work experience. Students put into practice previously learned concepts in the Human Resource field. Emphasis is placed on desirable interpersonal and professional work experience in the Human Resource field. Students are required to complete appropriate documents to ensure a successful work experience.

116-138 Safety, Security and Risk **3 cr**

Human Resources is often responsible for assisting in the management of safety, health, and security risks in the workplace. In this course, students will learn skills necessary to identify and manage these workplace risks. Topics areas covered include: occupational injury and illness prevention and response programs (hazard analysis, OSHA compliance, and worker's compensation), policies and procedures to minimize loss and liability (workplace violence, substance abuse, and emergency preparedness), business continuity planning and privacy and data security issues.

116-190 Leadership Development **3 cr**

Learner applies the skills and tools necessary to fulfill his/her role as a modern leader. Each learner will demonstrate the application of evaluating leadership effectiveness and organization requirements, individual and group motivation strategies, implementing mission and goals, ethical behavior, personal leadership style and adaptation, impacts of power, facilitating employee development, coaching, managing change, and effective conflict resolution.

116-193 Human Resources, Intro **3 cr**

In this course, students will examine the role of human resources and goals of human resource management in today's organizations. Students will learn and apply skills related to the various functions within human resources management including equal employment opportunity and diversity, recruitment and selection, compensation and benefits, performance management, and labor relations. Student will explore the importance and impact of these human resource functions on the overall strategy of organizations.

150-IT-Networking and Security

150-120 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.

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.

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.

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.

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.

150-150 CCNA 1: Intro to Networks **3 cr**

This is the first of four courses leading to the Cisco Certified Network Associate (CCNA) Routing and Switching certification. This course will introduce the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for successive Cisco Networking Academy courses. By the end of this course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

150-151 CCNA 2: Routing & Switch Essen **3 cr**

This is the second of four courses leading to the Cisco Certified Network Associate (CCNA) Routing and Switching certification. This course describes the architecture, components, and operations of routers

and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPv2, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks. Students who successfully complete this course and CCNA 1: Introduction to Networks will have also completed the recommended preparation for the Cisco Certified Entry Networking Technician (CCNET) certification exam. Students are expected to take the CCENT Exam at the conclusion of this course.

150-153 CCNA 3: Scaling Networks **2 cr**

This is the third of four courses leading to the Cisco Certified Network Associate (CCNA) Routing and Switching certification. This course describes the architecture, components, and operations of routers and switches in larger and more complex inter-networks. Emphasis is placed on network security, redundancy, and troubleshooting. By the end of this course, students will be able to configure routers and switches for advanced network functionality with technologies including Rapid Spanning Tree Protocol, EtherChannel, First Hop Redundancy Protocols HSRP and GLBP, and routing protocols OSPF and EIGRP in both IPv4 and IPv6 networks. Students will also develop the knowledge and skills needed to manage Cisco IOS image files and licensing.

150-154 CCNA 4: Connecting Networks **2 cr**

This is the last of four courses leading to the Cisco Certified Network Associate (CCNA) Routing and Switching certification. This course discusses the WAN technologies and network services required by converged applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. Students learn how to configure and troubleshoot network devices and resolve common issues with data link protocols. Students will also develop the knowledge and skills needed to implement IPSec and virtual private network (VPN) operations in a complex network. Students who successfully complete this course and its three predecessors will have also completed the recommended preparation for the Cisco Certified Network Associate (CCNA) Routing and Switching certification exam. Students are expected to take the CCNA Routing and Switching Exam at the conclusion of this course.

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.

150-160 Network Directory Services **3 cr**

Utilizing a hands-on format, this course will provide learners the foundational concepts and configuration skills necessary for the implementation, management and support of network operating systems based on Directory Service technology. Students will learn about the function and management of the Lightweight Directory Access Protocol (LDAP) database and the importance that

LDAP plays within Directory Services. Specific topics include objects, naming conventions, and addressing common to Directory Services such as Active Directory, eDirectory, and NIS. Students will learn and practice important skills such as how to utilize the appropriate management techniques in each of the Directory Services to configure user information, login restrictions, security functions and the automation of the user creation process as well as other scripted administrative tasks.

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.

150-170 Computer Maintenance & Support **3 cr**

This course provides the learner with practical application and competency in core computer hardware and operating system maintenance and support. Practical experience will be developed in the repair, configuration, upgrading, diagnostics and preventative maintenance of consumer PC's. These functions will be performed in the program's internal Computer Repair Center. Additionally, learners will perform the various administrative tasks associated with the Repair Center's operation such as product workflow tracking, inventory control and pre and post repair customer support. The lecture component of this course will prepare the learner to sit for the CompTIA A+ certification exams. Course fee includes the cost for a single attempt of the A+ Essentials (220-701) and A+ Practical Application (220-702) certification exams. The exam cost will be waived/refunded for those students taking the course who already hold a current CompTIA A+ certification.

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.

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.

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.

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.

150-183 Wireless Networking **2 cr**

This course in 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.

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.

152-IT Application Dev & Web

152-101 Programming Fundamentals **3 cr**

This course is designed to be a student's first programming course. It provides an introduction to fundamental computer programming concepts including: input-processing-output, if-then-else logic, for loops, and loops. Students use pseudo code and flowcharting tools to build problem-solving skills. Programming concepts are applied and problem-solving skills are practiced as students complete a variety of programming exercises using the JavaScript programming language.

152-102 IT-Software Dev Exploration **1 cr**

This is an introductory course that explores programming concepts, examines career possibilities for graduates of the Software Developer degree, and looks at current and future trends of the information technology industry.

Course Descriptions

152-103 .NET Application Development **3 cr**

In this course you will learn the Visual Basic or C# language using ADO.NET for database interaction, develop subs and functions, and develop objects and classes.

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.

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.

152-107 Web 1-HTML & CSS **3 cr**

This course is designed to be a "first course" in web site development. Students work with a text editor and a browser to develop web pages from scratch using HTML and Cascading Style Sheets (CSS) to control color, layout, text, and images. Responsive design principles and accessibility standards are incorporated to ensure web sites are usable and professional-looking. Tables, forms, audio, and video components are included to add variety and pizzazz.

152-108 Web 2 - JavaScript **3 cr**

This course will include a study of creating dynamic web applications using client-side JavaScript and JavaScript libraries.

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).

152-114 iOS Development **3 cr**

Learn to create simple iOS applications using the Xcode development tool. You will start learning the basics of both the Objective-C and Swift programming languages and apply the Cocoa Touch and Foundation environments in creating simple iOS applications. Applying these skills, you will use Objective-C and Swift to develop applications using the Sprite Kit environment.

152-115 Advanced iOS Development **3 cr**

Learn basic iOS programming skills such as using the Xcode development tool, accessing iOS documentation (SDK), designing and deploying applications to iOS devices, and submitting iOS applications to the App Store. Participate in discussions, demonstrations, presentations, and projects

to develop intermediate iOS development skills. Explore issues surrounding software security in iOS applications. Build basic iOS applications that apply Cocoa Touch, Sprite Kit, and other iOS technologies.

152-116 Professional iOS Development **3 cr**

Learn advanced iOS programming techniques including Core Data, Key-Value Observing, Gestures, and more. Participate in discussions, demonstrations, presentations, and projects to develop advanced iOS development skills. Explore issues surrounding performance and memory in iOS applications. Build advanced iOS applications that apply Cocoa Touch, Sprite Kit, Game Kit, Scene Kit, and other iOS technologies.

152-126 Agile Prog w Design Patterns **3 cr**

Agile Development consists of the planning, implementation, and delivery phases of a software product using coding standards, testing and continuous integration. This course will use aspects of Scrum (developed by Ken Schwaber and Jeff Sutherland) to facilitate and manage student projects using an agile approach. This involves planning and estimating, charting progress, testing, programming/developing intermediate solutions, and delivering the final product. Software design patterns will be explained and utilized in this course.

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.

152-132 Database 1 **3 cr**

Designed as a first database course, this course introduces students to the concepts of relational database management and beginning SQL. Students explore the history and evolution of databases, and investigate current database usage in industry. This relational model is examined and utilized as students practice creating, populating, manipulating, and querying multi-table relational databases using both the MS Access graphical user interface and SQL.

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**

This course provides a more in-depth study of SQL (Structured Query Language) and introduces database design. Students practice with database design methodologies, tools, and techniques via hands-on activities covering SQL, data normalization, Entity-Relationship Diagrams, and relational data modeling. Tools like Dia and MySQL are used to give students practical experience with the creation, documentation, and testing of relational databases.

152-142 Object Oriented Programming **3 cr**

This course is designed for a first course in object-oriented programming. Students will learn the fundamental principles of modularity and abstraction. Basic programming skills, such as decision-

making, looping, string manipulation, and arrays are expected to be used throughout the course. The second half of the course explores advanced topics, such as inheritance, polymorphism, and data structures.

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.

152-151 Android Development **3 cr**

Learn to develop mobile applications on the Android mobile platform. This course will provide an overview of the mobile application landscape, and will then quickly focus on one of the latest mobile technologies to develop the applications themselves. Participate in discussions, demonstrations, presentations, and projects to develop intermediate Android development skills.

152-159 Web Multimedia **3 cr**

Create animation for the web using HTML 5's Canvas element, CSS3, and JavaScript. The iQuery library will be explored to create dynamic web content and animation of web page components. Other animation tools may be explored as time permits.

152-160 Object-Oriented C Programming **3 cr**

Provides an introduction to computer programming logic using the C-based Object Oriented Programming language. This course will give the student a basic understanding of problem-solving skills using a computer programming language. Practical experience with programming concepts will be gained through demonstration and hands-on lab exercises with input/output, data types, arrays, and control structures.

152-161 3D Modeling 1 **3 cr**

Provides an introduction to 3D computer graphic creation using a sophisticated vendor graphic development package (3ds max). This course will give the student a basic understanding of the graphics package which includes modeling, texturing, lighting, and rendering 3D scenes.

152-162 3D Game/Simulation Programming **3 cr**

3D Simulation Programming provides an introduction to simulation programming using an industry standard simulation engine and 3D graphic package. The student will learn how to incorporate 3D models into simulation engine to program an interactive 3D simulation.

152-164 Database-Driven Web Design/Dev **3 cr**

Explore topics in server-side web development using PHP. The learner will get hands-on experience in the PHP environment with database applications using PHP and MySQL, sessions, cookies, string-handling, and other related topics.

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.

152-166 IT Developer Capstone **2 cr**
This advanced course provides further hands-on experience in programming and/or 3D simulation development. Students will work in small groups to create an application or 3D simulation. Students will be required to use project management techniques during the development process.

152-168 Mobile Web Applications **3 cr**
This course will continue to build on the skills practiced in the Web Multimedia course. This course will focus on creating more powerful and entertaining web applications as well as design and development of mobile web applications using HTML 5, CSS3, and iQuery.

152-182 IT Developer Internship **2 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 appraised of work activities via email, face-to-face visits, and Blackboard discussions.

196-Supervision & Leadership Dev

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

196-107 Time Management **1 cr**
Students will learn about how to manage time based on current activities and schedule. The student will set personal goals and learn to prioritize tasks and manage time effectively to achieve personal goals. The student will assess how procrastination and time wasters can affect achieving goals set, and as well as assess the importance of delegation in an effective time management strategy.

196-108 Building Collaborative Relationships **1 cr**
This course will helps students gain an understanding of why some of our working relationships are highly productive, others frustrating and ineffectual and also show the student what is required by individuals to build more successful and collaborative relationships – internally in teams, across functions and departments, or externally with suppliers, customers and partners.

196-109 Personal Ethics **1 cr**
Students will explore personal ethics from a managerial standpoint. The student will learn to use an ethical decision making framework to make good, ethical decisions and look at how ethical or unethical

decisions made by managers can have an effect on the entire organizational culture. Supervisors are required to model high ethical standards, so this course is a basis for understanding what that means.

196-115 Leadership **1 cr**

Students will use critical thinking to look into the different aspects of leadership. Students will explore different types of leadership and the effectiveness of each style. Students will also look at the impact that different types of power have on an organization and the employees by examining real-life examples.

196-116 Managing Communication **1 cr**

In this course, the student will look at different aspects of effective communication in an organization. Topics explored include different forms of communication, tools used in communication, barriers to communication, and the importance of effective communication in the organization. Emphasis will be placed on the importance of assertive communication as a manager in an organization.

196-117 Supervisor Roles **1 cr**

Student will examine different roles a supervisor takes on in an organization. Some of these roles will include motivating the workforce, practicing effective management skills, and leading by example. The supervisor role is very important in the work place, and in this course the student will look at real organizational examples to learn about the different roles.

196-118 Leading through Mission, Vision, and Value Statements **1 cr**

This course introduces the opportunity to experience first-hand the power that a mission, vision, and value statements can have for leading teams, departments, and organizations. Students will look at several ways you can use mission, vision, and value statements to generate tactical plans that bring these statements to life in your organization.

196-119 Stress Management/Wellness **1 cr**

This course assists supervisors to gain a better understanding of stress and its causes. Students identify the most common stress warning signs and recognize which types of people are most susceptible to stress. In addition to practicing techniques for controlling stress, there is an opportunity to calculate a stress inventory and develop a stress-relief plan for yourself and a wellness plan for your organization. This course focuses on reducing and channeling stress towards a goal of creating healthier, happier, and more productive workers.

196-120 Conflict Resolution **1 cr**

Students will learn about different conflict resolution techniques that can be used by a supervisor or leader within an organization given real-world scenarios. The students will also evaluate the importance of consultation, team building, trust, and win-win outcomes from a managerial standpoint in the resolution of organizational conflict.

196-121 Change Process **1 cr**

In this course, learners will have the opportunity to outline a change process for an organization. Within this outline and analysis, the student will take into consideration outside factors that may affect the change process, including both internal and external challenges. The student will explore

transformational change within and organization and its benefits to the organization and the change process.

196-122 Concepts of Problem Solving **1 cr**

In the Concepts of Problem Solving course students will learn about systematic processes for solving organizational problems. Students will evaluate an organizational problem using the systematic process, and determine viable solutions based on the outcomes of that process. Finally, the student will discuss the benefits and challenges to completing the systematic problem solving method in a team environment.

196-123 Diversity **1 cr**

Students will analyze the growing amount of diversity in organizations today, as well as the impact diversity can have on the overall organizational culture. The student will learn techniques for adapting to increasing diversity and helping others adapt. In addition, the student will develop strategies managers and leaders can use for managing the increasing organizational diversity.

196-124 Employee Discipline **1 cr**

Students will learn about how to manage different aspects and levels of employee discipline. The student will learn techniques to use when supervising difficult employees, as well as use different strategies to help improve employee performance. Finally, the student will learn how to implement disciplinary and termination procedures that comply with the law.

196-125 Employee Performance **1 cr**

Students will create guidelines for employee performance based on a specific organization. Included in those guidelines will be a formalized performance appraisal plan. The student will also use this organization to discuss how he or she can apply specific leadership behaviors to improve individual and group performance.

196-126 Managing Work Teams **1 cr**

In the Managing Work Teams course, the student will focus on team meetings and gathering group consensus. The student will explore some of the different habits of interdependence and demonstrate the ability to effectively plan and document a team meeting from a managerial standpoint. The student will use real-life examples to illustrate his or her skills.

196-131 Employee Development and Coaching **1 cr**

This course provides students with skills necessary to coach, mentor, tutor, counsel, and confront performance issues in order to help employees become more committed to performance objectives and increase productivity. The students practice setting, communicating, and coaching employees to performance expectations.

196-132 Financial Management **1 cr**

Student will look at different aspects of managing finances in an organization, including evaluation of the organization's financial performance. The student will look at real-life business scenarios to make decisions regarding finances, and will use spreadsheets and other electronic documents to explain the financial decisions.

196-135 Organizational Ethics **1 cr**

In the Organizational Ethics course, the learner will look at many different aspects of ethics from a managerial standpoint. Since organizational ethics has become such an important topic in organizations, it is important that managers understand the different aspects. The student will look at ethics in regard to organizational culture, organizational leadership, different forms of ethical conduct, and components of an effective ethics program within the organization.

196-137 Recruitment and Hiring **1 cr**

In the Recruitment and Hiring course the student will take a human resources perspective to explore recruitment and hiring practices, which will include job design and documentation, a recruitment strategy based on the organization's needs, and appropriate techniques for screening applicants for an open position within the organization.

196-138 Creativity and Innovation **1 cr**

This course is designed to inspire innate creativity to help launch major projects or untangle difficult situations. It focuses on providing fresh insight and new perspective on even the most routine elements of any job and to view problem solving as a creative opportunity. The use of creativity to provide a competitive edge leading to needed change and increased productivity is covered as well as techniques that help with idea generation and innovative solutions to problems.

196-139 Strategic Planning, Goal Setting, and Succession Planning **1 cr**

This course introduces students to the components of a strategic plan and the process of strategic planning. You will learn how setting goals and managing teams is a critical part of actually getting plans implemented. Students will gain an understanding of succession planning and how it ties into a strategic plan.

196-140 Orientation and Training **1 cr**

In the Orientation and Training course, the student will look at the organization from a human resources management perspective. The student will focus on the different components of the orientation process for new employees as well as the continued training of employees throughout their time with an organization. The student will develop an orientation and training program for an actual organization in this course.

196-141 Labor Force Issues **1 cr**

In the Labor Force Issues course the student will learn about different issues that occur within the labor force, some of which include workplace violence, substance abuse, different forms of harassment, discrimination and privacy issues. The student will look at these perspectives from a managerial and leadership standpoint, learning the role management plays in each of these issues.

196-143 Process Management **1 cr**

In the Process Management course the student will learn about the different aspects of process management, including process control tools, PDCA/PDSA cycles, and statistical process tools. The student will also learn about how the internal and external components of a process can affect the overall process and learn about process improvement techniques as well. Processes are a part of every business, and managers are responsible for ensuring those processes are efficient and effective.

196-144 Production Management **1 cr**

In the Production Management course students will look at all of the different components of production given real-world situations. Students will use managerial skills and functions for decision making in regarding to production. The student will also determine the costs of products based on the different aspects of production.

196-145 Quality Management **1 cr**

In the Quality Management course the student will look at many different aspects of managing quality, including quality management and planning tools, FMEA, a quality function deployment process, and Total Quality Management Techniques in helping to plan and control for quality within the organization. In this course the student will be able to develop a personal philosophy of quality from a managerial perspective.

196-146 Workplace Social Responsibility **1 cr**

In the Workplace Social Responsibility course the student will learn about the different aspects of social responsibility from an organizational standpoint. This will include problems and issues relating to social responsibility in the workplace as well as the relationship between business, the economy, and the environment. The student will look at the different laws and regulations regarding social responsibility and management's role in ensuring compliance with these regulations within the organization.

196-147 Leading Change **1 cr**

Students will look at organizational change from a managerial standpoint, developing a change management strategy for an organization, taking into consideration how employees may react to change. The student will also analyze how strategic leadership plays a role in an organization, as well as the overall role of leaders and managers in organizational change.

196-148 Lean Principles **1 cr**

This course introduces a systematic approach to improving quality and increasing efficiency by identifying and reducing non-value added steps in the process. The learner will identify types of waste in a process and develop a means of eliminating. The learner will utilize 5-S approach to organizing, point-of-use storage, pull system, quality at the source, and employee involvement.

196-149 Budget Analysis **1 cr**

In the Budget Analysis course, students will be evaluating budgetary decisions and processes based on real-world examples. Students will explore the importance of operational budgeting from a planning and controlling standpoint, as well as explore capital investing decisions for an organization. Overall, the student will learn how to apply budgeting concepts and principles to an organization.

196-150 Applied Problem Solving **1 cr**

In the Applied Problem Solving course students will use a real-world organizational and supervisory situation to define a problem, examine all the necessary data related to the problem, use creative techniques to derive possible solutions to the problem, come up with the most effective solution based on data, and create an implementation plan for resolving the problem. The project students will complete will be in a formalized document.

196-151 Leading Projects **2 cr**

In this first Project Management course students will examine the role of a project manager. In addition, the students will look at the different aspects of project planning, including software for managing a project and the different planning phases required for a successful implementation.

196-152 Global Business **1 cr**

In the Global Business course students will learn about different aspects of international business and the global economy. Since most organizations are global it is important that today's manager understands the dynamics of international business. Students will evaluate different effects of globalization on an organization, including ethical concerns for the organization.

196-153 Marketing and Customer Service **1 cr**

In the Marketing and Customer Service course the student will learn about the role of management in making decisions concerning organizational marketing. The learner will also apply different strategies to meet or exceed the expectations of the customer, both internal and external. Through the use of presentation software, the student will show his or her abilities in terms of managerial marketing and customer service.

196-154 Organizational Development **1 cr**

In the Organizational Development course the learner will focus on the different managerial aspects of organizational development, including methods for diagnosing organizational issues and designing intervention plans. Organizational development is important because organizations are continually growing and changing, and it is management's job to ensure that the organization is developing and changing in the right areas.

196-156 Planning and Control **1 cr**

In the Planning and Control course the student will look at the organization from a managerial perspective in terms of the organization's overall goals, objectives, and priorities. The student will look at topics such as establishing priorities for an organization, the planning process for achieving goals, and the controlling process for getting results. The student will use an actual organization to complete the required activities in this course.

196-158 Employment Law **1 cr**

In the Employment Law course the student will gain an overall understanding of the laws and regulations in place regarding employees and employers. The student will learn about the EEOC, FERPA, and ADA regulations among others. The course will look at employment law from a managerial standpoint in terms of what an organization can and cannot do in regard to employment and labor. This includes the rights and responsibilities or both the employer and the employee.

196-159 Financial Statements **1 cr**

In the Financial Statements course the student will learn about the different basic financial statements used in organizations today. The student will also use spreadsheets to prepare financial statements and compute financial ratios. Finally, the student will explore different methods of costing and classify the different elements of cost given real-world examples.

196-161 Managing Bias **1 cr**

In the Managing Bias course the student will take an introspective view of bias and personal prejudice. The student will have the opportunity to analyze his or her attitudes about others in the workplace and the effect that this may have on an organization and the people in it. This course is designed to give a student a perspective of his or her own biases for the purpose of eliminating them.

196-162 Safety Management **1 cr**

In the Safety Management course the student will look at safety from a human resources office perspective. Although other departments may be in charge of safety in an organization, many times it falls on the human resources personnel. The student will look at safety awareness and preparedness, inspections and maintaining a health work environment. The student will use an actual organization to demonstrate competency in these areas.

196-163 Leadership Capstone **1 cr**

Students apply their knowledge to develop a portfolio that demonstrates their competence in key areas of quality, effective leadership skills, human resource policies and procedures, and supervisory management functions to achieve organizational objectives.

307-Early Childhood Education

307-148 ECE: Foundations of ECE **3 cr**

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

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.

307-152 Adm/Superv-Early CC Education **3 cr**

An overview of roles and responsibilities of directors, supervisors, coordinators, and other administrators in early childhood programs. This course is the first of six courses required for the Child Care Administrator Credential Certificate.

307-165 Hlth, Safety, Nutr for Yng Chd **3 cr**

Focuses on the legal and ethical responsibilities of early childhood education professionals in providing for the health, safety, and nutrition of young children. Learners examine governmental practice skills to assess indoor and outdoor environments for safety, employ universal precautions for routine care of children, respond to emergency situations, conduct health assessments, and guide children in developing healthy food habits.

307-166 ECE: Curriculum Planning **3 cr**

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

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.

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.

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.

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.

307-187 ECE: Children w Diff Abilities **3 cr**

The course focuses on the child with differing abilities in an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives; provide inclusive programs for young children; apply legal and ethical requirements including, but not limited to, ADA and IDEA; differentiate between typical and exceptional development; analyze the differing abilities of children with physical, cognitive, health/medical, communication, and/or behavioral/

emotional disorders; work collaboratively with community and professional resources; utilize an individual educational plan (IEP/IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; cultivate partnerships with families who have children with developmental differences.

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.

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.

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.

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.

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.

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.

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.

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.

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.

401-304 Refrig Sys Install & Service **4 cr**

Students learn the techniques to install, test, maintain, and troubleshoot residential and commercial refrigeration systems. Students will have the benefit of learning in a well-equipped lab that provides experience on both residential and commercial refrigeration systems.

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.

404-306 Brake Sys & Engine Repair **5 cr**

This course is based on ASE/NATEF competencies for brake system (80 hours) and engine mechanical repair (80 hours). Students can develop the knowledge needed to apply the technical information, specifications, and repair procedures used in brake, engine mechanical, and cooling system service. Competencies include the skills needed to safely and correctly use tools and equipment to service disc brakes, drum brakes, drum and motor machining, power brakes, rear-wheel disc brakes and cooling systems (flushing, cylinder head/valve train systems, including timing belts and chains, short-block assemblies and lubrication systems). Videotapes are used to individualize the instruction of equipment operation.

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.

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.

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.

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.

404-335 Automotive Fundamentals **1 cr**

A course of study designed to provide the student with an overview of the automotive program along with shop equipment and safety. Computer-based SP2 online safety training will be utilized. Also included is instruction on hand & power tool operation, fastener identification, vehicle lifting procedures, ASE certification criteria, career exploration, and history of the automobile industry. This courses is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

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.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

404-340 Engine Performance **5 cr**

Engine performance competencies are covered for diagnosis and repair of distributor (DI) and distributor-less (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.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

404-351 Auto Engine Performance 1 **3 cr**

A course of study designed to provide the student with the skills needed to explain how an internal combustion engine operates and develops horsepower and torque. Students will disassemble an internal combustion engine, identify & measure components, reassemble engine using industry standard tools and procedures, and perform basic engine tests. This course is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered via the internet.

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.

404-355 Automotive Computer Systems **2 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. This course is web-enhanced. Some content will be delivered and available Internet.

404-356 Automotive HVAC Systems **3 cr**

A course of study designed to provide the student with the skills needed to diagnose, service and repair heating, ventilating, and air conditioning systems in automobiles. The student will be able to evacuate and recharge A/C systems, convert A/C systems from R-12 to R134a refrigerant according to industry standards, and perform component replacement. Students will be able to diagnose and repair computerized climate control systems. Upon successful completion of the course, the student will be licensed to perform A/C repairs in the state of Wisconsin. This course is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

404-361 Manual Trnsmission & 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. This course is web-enhanced. Some content will be delivered and available via the internet.

404-362 Auto Trnsmission & Trnsaxles **4 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair automatic transmissions & transaxles 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. This course is web-enhanced. Some content will be delivered and available via the internet.

404-363 Engine Repair **4 cr**

A course of study designed to provide the student with the skills needed to diagnose, service, and repair internal combustion, engines found on late-model vehicles. Coursework includes: lubrication systems, valve timing, leak diagnosis and repair, engine noise & failure diagnosis, valve service, cylinder head replacement, and engine removal/replacement procedures. This course is web-enhanced. Some content will be delivered and available via the internet.

404-370 Adv Auto Chassis Systems **3 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. This course is web-enhanced. Some content will be delivered and available via the internet.

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. This course is web-enhanced. Some content will be delivered and available via the internet.

405-Auto Body Chassis & Finish

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.

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.

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.

405-356 Nonstructural Repair **5 cr**
Students will develop skills in repair of minor and major dent repair, nonstructural.

405-357 Refinishing **5 cr**
Students will complete paint jobs, spot repair, color blending, sanding techniques and taping.

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.

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.

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.

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.

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.

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.

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.

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.

412-309 Heavy Duty Trck HVAC & Refrig **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.

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.

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.

412-312 Intro to Electronic Control **4 cr**

This course will introduce the student to the basic electronic control systems that are integrated into the modern heavy -duty truck. The student will study electronic engine systems and electronic transmission systems. Schematic interpretation, troubleshooting techniques using a digital multi-meter, service manual and scan tools will be practiced. A tool kit is required by each student in this course.

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.

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.

412-315 Preventive Maintenance **1 cr**

This course will offer the student a change to show the instructor his or her ability to perform general and/or major preventive maintenance/repair on a heavy-duty truck. Task may include any area that was covered in the program. A tool kit is required by each student in this course.

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.

412-350 Mobile Hydraulic Concepts **1 cr**

This course will provide the basic concepts of hydraulic principles that are found in typical mobile hydraulic circuits. The student will learn the components, related math, symbols, schematics, fitting, operations, and maintenance of the hydraulic systems.

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.

413-Electricity

413-303 Electricity of EPD 1 **4 cr**

This course introduces the student to basic electrical theory using Ohm's Law to analyze series, parallel and combination circuits. Concepts of work, power, energy, and magnetism will be studied. Students will learn basic line construction materials such as insulator design, pole information, and wire size and resistance, with hands on practice on communication signals for lineworkers. Throughout the course there is an emphasis on safety for lineworkers.

413-304 Electricity of EPD 2 **4 cr**

This course introduces the student to basic A.C. circuits and advances to A.C. circuits with induction and capacitance. The course includes A.C. parallel circuits with resistance, inductive reactance and capacitive reactance. The student will learn guying and anchoring concepts. CPR and Medic First Aid certification will also be included. Throughout the course there is an emphasis on safety for lineworkers.

413-305 Basic Line Construction Lab **5 cr**

This course introduces the student to power line construction techniques including staking/overhead line design, overhead structure specifications, overhead distribution line construction and stringing/sagging overhead line conductors. The course includes basic hydraulics and line truck operation. Ropes, knots, and splices associated with the lineworker trade will be learned and used throughout the course. Electrical connectors will also be covered. Students will learn aerial climbing tools and techniques. Students will use electrical test equipment and hand and power tools associated with the lineworker trade. Throughout the course there is an emphasis on safety for lineworkers.

413-306 EPD Power & Transformers **4 cr**

This course introduces the theory of three-phase electrical power systems, including wye and delta systems. Students will study single- and three-phase transformer; construction, principles of operation, connections as well as secondary power supply systems. Skills in electrical system grounding principles and over voltage equipment will be developed. Safety topics related to electrical line work will be highlighted.

413-307 Electric Line Apparatus **4 cr**

Introduction to electrical power line apparatus such as; over current equipment, voltage regulators and kilowatt hour meters. Components and functions of an electrical substation, underground distribution systems, street lighting equipment, along with the sources of communication interference from electrical sources. Safety related topics are included.

413-308 Advanced Line Construction Lab **4 cr**

This is a lab class for second semester Electrical Power Distribution. Students will learn and use advanced levels of topics such as; aerial climbing, rope knots and slices, electrical connectors, electrical test equipment, as well as hand tools. Application and installation of various electrical apparatus in a lab environment is completed by the students. Overhead transmission structures are constructed, protective grounding is introduced, and live line work such as; rubber gloving and hot stick use is practiced (de-energized lines). Underground related equipment is introduced including cable terminating tools and cable locating equipment. Students will install UD cable and terminate cable. Students will also operate a modern combination trencher-cable plow. Safety for the various lab activities is stressed.

419-Indust Hydraulics-Pneumatics

419-102 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.

419-102C Hydraulic Systems 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. The 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.

419-116 Basic Hydraulics **2 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.

419-116C Basic Hydraulics **2 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.

419-117 Basic Pneumatics **2 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.

419-117C Basic Pneumatics **2 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.

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.

419-118C 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.

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.

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.

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.

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.

420-300 Machine Shop Theory **1 cr**
Broad theoretical background in machine shop practices which includes milling, turning, grinding, and drilling.

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.

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.

420-309 CNC Lathe Programming Theory **1 cr**

In this course students will acquire knowledge and skills in CNC Lathe programming concepts. Students will develop and apply manual G&M code programming skills in linear and circular interpolation, canned cycles, and tool nose radius compensation techniques. Math concepts will be applied to find Cartesian coordinates for part geometry. Students will complete examples presented and be assigned similar projects to reinforce the material presented.

420-310 CNC Mill Programming Theory **1 cr**

In this course students will acquire knowledge and skills in CNC Mill programming concepts. Students will develop and apply manual G&M code programming skills in linear and circular interpolation, canned cycles, cutter compensation techniques, and applications using sub-program and sub-routines. Math concepts will be applied to find Cartesian coordinates for part geometry. Students will complete examples presented and be assigned similar projects to reinforce the material presented.

420-315 Machine Tool Internship **3 cr**

Students are encouraged to find an internship while enrolled in the third semester of the Machine Tooling Technics program. Each student is responsible for finding an internship before enrolling in this course. Students are required to keep the instructor apprised of work activities via email, face-to-face work-site and office visits, and Edvance360 discussion boards.

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.

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.

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.

420-325A Basic CNC Mill Programming **5 cr**

This course is designed to prepare the student for entry-level skills in programming, setup, and operation of CNC milling machines. Repetitive operational tasks will be performed so students acquire knowledge and skill in setting-up and operating CNC milling machines. Students will develop and apply skills in setting and testing work and tool offsets, performing manual data input functions, loading programs, and the running of proven CNC programs. Programming examples will be covered using canned cycles, linear and circular interpolation, cutter compensation, subroutines, and multiple fixture offsets, etc. Projects will be assigned and completed using Haas Mini and VF series vertical mills.

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.

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.

420-330A 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 set up 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.

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.

Course Descriptions

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.

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.

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.

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.

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.

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.

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.

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.

420-380A 2-D CAM **2 cr**

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. This course is intended for entry-level machine tool programmers.

420-382C Swiss 1 **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 setup of an automatic bar feeder for automated manufacturing.

420-385 Advanced Machine Concepts **3 cr**

This course will introduce the student to multi-axis machining operations, EDM machining, Swiss machining, and other advanced machining concepts. Emphasis will be placed on skill development using advanced machining processes on various CNC machine tools. The course will include a variety of machine tool set up, loading proven part programs, setting tools, adjusting offsets, and advanced machining applications.

421-Mechanical Drafting

421-302 Manufacturing Processes **2 cr**

This course is designed to explore the manufacturing process as applied to mechanical part designs. Instruction includes the properties and processing characteristics of metals, plastics, elastomers, woods, ceramics, and composites. Manufacturing processes include mechanical tool cutting,

machining, electrochemical milling, photochemical etching, laser machining, casting, fabricating, joining, heat treating, and secondary finishing operations. Modern manufacturing technologies such as automation, robotics, and computer integrated technologies are also included with case studies of industry.

421-303 CAD I **3 cr**

Introduction to computer-aided drafting and design (CAD) software (AutoCAD) to create two-dimensional drawings. Introduces CAD navigational commands to create entities, edit, store, and print CAD drawings. Topics include entity creation of arcs, circles, lines, coordinates, editing functions, scaling, making templates, text detailing, layers and linetypes, viewports, modelspace layout and paperspace practices, dimensioning styles, calculation strategies, blocks, groups, libraries, attributes, bills of materials, and plotting to scale. The student will apply CAD skills to a detailed mechanical design drawing. All assignments are documented within an AutoCAD portfolio.

421-304 CAD II **2 cr**

This course is designed to teach computer-aided drafting principles and standard practices. AutoCAD software is used for technical drawing applications. Topics include coordinate features, various editing functions, file maintenance, database management, prototype drawing, mechanical part design dimensioning practices, the use of blocks, using library symbols, two-dimensional CAD design details and printing or plotting. Detailed drawings will follow general dimensioning practices found in ASME Y14.5-2009.

421-305 CAD III **3 cr**

This course is designed to explore and create 3-D models of mechanical parts using AutoCAD or SolidWorks surfacing and solid modeling commands. This course uses project-based instruction focusing on assembly drawings and design documentation.

421-315 Geometric Tolerancing **2 cr**

This course is designed to provide the concepts of Geometric dimensioning and tolerancing (GD&T) as applied to mechanical parts. Welding fabrication, and mechanical assemblies, GD&T symbols of form, orientation, profile, location, and run out will be used in application based on ASME Y14.5-2009 standards. GD&T universal symbols and terms will be applied: position tolerancing, datum reference frame theory, datum (size) modifiers, datum targets, metrology and functional gage design application using a coordinate measuring open setup.

421-321 Basic Solid Modeling **3 cr**

This course introduces the basic concepts and commands required to develop 3-D solid models using SolidWorks software. Students will learn to constrain models and develop parametric models. Students will also produce 2-D working drawings from the models. Topics will include dimensioning, orthographic views, and section views.

421-385 MT Blueprint Reading and GD&T **2 cr**

Introduction of engineering language used on blueprints; interpretation of blueprints; blueprints and understanding manufacturing processes and communication between product design and machinist-manufacturer.

421-386 Welding-Blueprint Reading **2 cr**
Drawing fundamentals related to two and three view drawings; visual projection methods; freehand sketching; weld symbols and how to apply them.

442-Welding

442-120 Related Welding-Indust Mech **2 cr**
The purpose of this course is to help the students acquire the basic welding skills in oxyacetylene welding, Shielded Metal Arc Welding (SMAW), and Gas Metal Arc Welding (GMAW). It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices.

442-301 Welding Metallurgy **2 cr**
The purpose of this course is to help students acquire basic metallurgy knowledge that will be useful in their welding careers. The students will study the types and uses of steel; modification and prediction of metal behavior; crystalline structure before and after modification; lab work focuses on using the knowledge gained.

442-303 Metals Technology 1 **1 cr**
Introduces the student to a variety of technical topics related to the Welding program. Topics will include: machine settings, wire and electrode designations, drilling operations, data sheet interpretation, structural steel methods, maintenance of welding equipment, etc. Discussion will also take place on issues such as work ethics and job/work attitudes.

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.

442-307 Welding Print Reading **2 cr**
Drawing fundamentals related to 2 and 3 view drawings; visual projection methods; freehand sketching; weld symbols and how to apply them. Interpret weld blueprints according to industry standards.

442-310 Welding Safety and Orientation **1 cr**
Introduces welding safety and standard operating procedures on equipment commonly used in welding labs/shops and on tools received in student's toolbox. Students will be able to receive an OSHA 10 safety certificate.

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.

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 oxyacelylene 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.

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.

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.

442-315 Welding for Autobody **2 cr**
High strength steel is used in unibody construction; vehicle manufacturers mandate MIG welding be used on repair of all structural parts. Substantial time is devoted to light gauge metals welded with small diameter wire using a MIG welder.

442-315A Welding for Auto Collision **2 cr**
The purpose of this course is to help the students acquire basic welding skills on light gauge metals and other materials used in the automobile industry by using oxyacetylene welding, Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (GMAW), and plastic welding. It is a hands-on self-paced learning environment to learn basic welding skills and safe welding practices. May get into course with instructor approval if you are not a program or pre-program student.

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.

442-320 Related Welding, Advanced **2 cr**
Advanced techniques including out-of-position arc and oxy-acetylene welding; TIG and MIG welding of aluminum and stainless steel.

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.

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.

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.

442-350 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)

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.

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.

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.

442-362 Basic Wire-Feed Welding **4 cr**
Introduction to Gas Metal Arc Welding (GMAW, wire-feed welding, MIG). Develop skills with solid wire GMAW short-circuit transfer in various positions and joint designs.

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.

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.

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.

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.

442-371 Advanced Robotic Welding **3 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.

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.

442-380 Industrial Skills Welders **2 cr**

In this course the student will develop math skills and job seeking skills of the welding career to meet the demand of today's industry. Application based math topics will address fractions, decimals, fraction conversion to decimals and metric equivalents, geometry and trig formulas as well as algebraic problem solving. The student will use blueprints for layout calculations and technics. The student will also develop job seeking skills such as: employment search, resumes, application forms, and employer interviews.

457-Metal Fabrication

457-350 Related Advanced Processes **1 cr**

This course will provide the student with an understanding and practical applications of the automated manufacturing processes used in the fabricating industry.

457-360 Advanced Processes **2 cr**

This course will provide the student with an understanding and practical applications of the automated manufacturing processes used in the fabricating industry. Applications of CNC plasma tables, water jet cutting systems, laser welding and cutting, friction welding applications, and more will be explored and utilized.

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.

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.

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.

457-380 Layout and Fabrication 1/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.

457-381 Layout and Fabrication 2 **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.

458-Commercial Driving

458-306 CDL License Training **3 cr**

Provides skills related to earning a CDL for students whose primary career is not driving. Pre-trip inspection procedure, laws, backing exercises, shifting and driving techniques with a tractor trailer and straight truck are covered.

458-340 Truck Driving Refresher **2 cr**
This course is designed for students with a current CDL in need of a refresher. This course includes hours of service, the 10-hour federal mandatory training (CSA2010), collision avoidance, and behind the wheel. Student must be 18 years of age and have a current CDL.

458-341 Truck Driving 1 **4 cr**
Covers the laws pertaining to the operation of a commercial motor vehicle (CMV). This course also focuses on how to properly inspect a CMV and how to operate one safely. Each student progresses according to his or her own abilities with the assistance of an instructor. Student must be 18 years of age when class begins. This course is not eligible for financial aid.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

462-Industrial Equip Mechanic

462-111 Mechanical Concepts **2 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.

462-111C Mechanical Concepts **2 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.

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.

462-118 Industrial Electric Principles **3 cr**

In this course the student will learn the fundamental theory and application of DC and AC electrical circuits, industrial three-phase motor control circuits, electrical wiring, troubleshooting and testing common electrical control circuits found in industry.

462-118C Industrial Electricity Princip **3 cr**

In this course the student will learn the fundamental theory and application of DC and AC electrical circuits, industrial three-phase motor control circuits, electrical wiring, troubleshooting and testing common electrical control circuits found in industry.

462-119 Industrial Mechanical Skills **2 cr**

In this course the student will develop precision measurement and applied math skills to meet the demand of today's industry. Application based math topics will address fractions, decimals, fraction conversion to decimals and metric equivalents, geometry and trig formulas, as well as algebraic problem solving. The student will use gauges; micrometers dial calipers and other measurement devices.

462-120 Centrifugal Pumps & Alignment **3 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.

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.

462-121C Repair Auto Mfg Equipment **4 cr**

This course is designed to give the student understanding and experience with various types of automated equipment. Proper Lock-out and 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.

Course Descriptions

462-122 Prev and Periodic Maintenance **1 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.

462-122C Preventative & Periodic Maint. **1 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.

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.

462-123C 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 starter, PLC operations, air logic controllers, and electropneumatic components will be investigated.

462-126 Mechanical Alignment & Bearing **2 cr**

This course is designed to give the student a basic understanding of the mechanical concepts that are found on industrial equipment. Topics focus on alignment of shafts, and correct servicing of bearings. 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.

462-126C Advanced Mechanical Concepts **2 cr**

This course is designed to give the student a basic understanding of the mechanical concepts that are found on industrial equipment. Topics focus on alignment of shafts, and correct servicing of bearings. 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.

462-130 Industrial Mech Prints & Doc **2 cr**

This course allows the student to learn the symbols used in the maintenance industry and to put those symbols into circuits and diagrams. A unit is also given on blueprint reading consisting of basic symbols and reading the dimensions from various blueprints. Simulation software will be used to demonstrate operation of circuits and design.

462-131 Machine Trblshoot Practicum **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.

462-132 Mach Trbleshting & Repair Adv **2 cr**

This course is designed to develop the troubleshooting process applied to electrical, mechanical, hydraulic, pneumatic and related systems. System and component troubleshooting applying top-down, divide-conquer, and backward approaches are covered. Learners will test and repair a variety of components and systems.

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.

462-141 Process Control Systems **2 cr**

Course provides a "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.

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.

462-151 New Technologies in Ind. Maint **2 cr**

Technology continues to change the Industrial Maintenance landscape. This course will explore new technologies, update skills and determine the benefits of new processes. Topics will to reflect the needs of industry in relation to advances in Controls, PLC's, Motor/Drives, Process Control and hybrid technologies used in industry.

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.

475-Construction Worker

475-100 Construction Safety **1 cr**

During this course you will start with basic construction language, symbols, and print reading fundamentals. The main emphasis of this course will be to prepare the student to function at the job site when reading and interpreting construction drawings and framing plans. Proper use of the architects scale and understanding the different scales and their uses will be taught.

475-110 Frming Mthods/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 tights 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.

475-111 Frmng Mthds/Bldng the Envl Lab **5 cr**

Students will develop skills and apply concepts and practices from the areas outlined in the course 475-110 Framing Methods/Building the 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.

475-112 Const Basics & Print Reading **2 cr**

During this course you will start with basic construction language, symbols, and print reading fundamentals. The main emphasis of this course will be to prepare the students to function at the job site when reading and interpreting construction drawings and framing plans. Proper use of the architects scales and their uses will be taught. Applied math skills used in the construction industry will be covered as well.

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.

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.

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.

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.

475-125 Est Residential Construction **3 cr**

This course introduces the student to the basic methods of estimating light building construction and develops a system for doing quantity take off of materials. The student should develop skills to complete carpentry materials and labor. Material board feet, square feet and lineal foot pricing will be taught. At the conclusion of this course, the student should have developed the skills to complete preliminary material and labor estimates for residential construction.

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.

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.

501-140 Multidisciplinary Healthcare **1 cr**

This is a course with students from multiple disciplines, which will promote collaboration, greater understanding of other disciplines represented, and work collaboratively in both a hybrid online learning environment and in a simulated clinical experience.

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.

502-Barbering/Cosmetology

502-301 Haircutting 1 **3 cr**

Topics of this course include the history of cosmetology, exploring career pathways, basic techniques and principles used in male and female haircutting, client consultation procedures, safety and sanitation procedures, and professionalism. This course will also introduce basic product knowledge and retail skills.

502-304 Haircutting 2 **3 cr**

Topics of this course include intermediate techniques and principles used in hair cutting, ethnic hair cutting techniques, client consultation procedures, safety and sanitation procedures, mustache and beard trimming, outline and face shaving, and identifying face shapes to create appropriate style.

502-305 Haircutting 3 **2 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.

502-310 Chemical Services 1 **3 cr**

Topics of this course include intermediate techniques and principles used in texture services and hair coloring. Fundamentals of this would include safety and sanitation procedures, client consultation procedures, shampooing procedures, sectioning techniques, wrapping techniques, temporary coloring techniques, semi/demi coloring techniques, permanent hair coloring techniques, and hair removal techniques related to facial waxing services.

502-311 Hair Styling **2 cr**

This course provides a general knowledge of hairstyling and finishing techniques. Fundamentals will include: product knowledge, wet styling, thermal styling, basic braiding, wig styling, extensions, up-do techniques and blow dry styling.

502-314 Chemical Services 2 **3 cr**

Topics of this course include advanced coloring procedures and texture service procedures. Fundamentals include bleaching techniques, tipping and highlighting techniques, color correction techniques, toning techniques, chemical relaxing techniques, product knowledge of thioglycolate and sodium hydroxide relaxer chemicals.

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.

502-321 Salon Services 1 **4 cr**

This course will provide students with hands-on training using fundamentals of hair cutting, 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.

502-322 Salon Services 2 **4 cr**

This course will provide students with hands-on training using the fundamentals of Salon Services 1 and using intermediate haircutting techniques, advanced coloring techniques, and chemical service procedures, while practicing safety and sanitation procedures and professionalism. This course will be taught in a lab setting providing cosmetology services to the public. Product knowledge and retail skills will also be practiced.

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.

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.

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.

502-326 Salon Services Lab **2 cr**

This course will provide students with hands-on training using the fundamentals of Salon Services 1, using haircutting techniques, coloring techniques, beginning facial/make-up applications, and chemical

service procedures, while practicing safety and sanitation procedures and professionalism. This course will be taught in a lab setting providing cosmetology services to the public. The students will build on product knowledge, retail skills, and interpersonal skills.

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.

502-371 Advanced Salon Operations **2 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.

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.

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.

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.

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.

503-130 FireMedic Internship **2 cr**

This course allows second-year program students to actively participate as a 'working' member of a fire department. Students work the 24-hour shift schedule at one full-time local fire department, and perform the same duties as the firefighters. Evaluation is determined by fire department officials and the course instructor. Prerequisite(s): Successful completion of entrance exams: written, physical ability, physical exam, and interview.

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.

504-Criminal Justice

504-103 LE Employment Strategies **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.

504-107 Law Enforcement Crisis Mgmt **3 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.

504-121 Patrol Procedures **3 cr**

Patrol officer's role; explanation of handling usual and unusual assignments; strategies of officer survival; patrol tactics; traffic stops.

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 Criminal Justice Internship **3 cr**

Firsthand observation within a criminal justice agency of the student's choice; learning activities provided on-site with participating agencies.

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.

504-700 Health and Fitness **1 cr**
Through classroom lecture and on-campus lab students will apply Phases I-III Health Fitness WI Department of Justice 720 Academy curriculum framework program requirements.

504-701 Overview of Criminal Justice **1 cr**
Through classroom lecture and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following WI Department of Justice 720 Academy Phase I curriculum framework topics: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication.

504-702 Overview of Patrol Response **2 cr**
Through classroom lecture, and on-campus lab, and WI Department of Justice integration exercises students will learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, Introduction to TraCS, Traffic Law Enforcement, and First Aid/CPR/AED. This course will also include the WI DOJ 720 Academy Integration Exercises.

504-703 Overview of Tactics **1 cr**
Through classroom lecture, and on-campus lab and WI Department of Justice 720 Academy integration exercises, students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Fundamentals of Firearms, Vehicle Contacts I, Officer Wellness, and DAAT. The DOJ Phase I Written Examination will be administered in this course.

504-704 Overview of Investigations **2 cr**
Through classroom lecture, on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy curriculum framework Phase I topics: Constitutional Law I, Crimes I, Juvenile Law I, Interviews, Report Writing, and Physical Evidence.

504-705 Principles of Patrol Response **2 cr**
Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following WI Department of Justice 720 Academy curriculum framework Phase II topics: Professional Communication Skills II, Incident Command Systems and NIMS, Hazardous Materials and WMD, Tactical Response, Crisis Management, and Tactical Emergency Casualty Care.

504-706 Principles of Tactics **3 cr**
Through classroom lecture and on-campus lab students will learn and apply skills addressed in the following Phase II topics from the Department of Justice 720 Academy curriculum frameworks: DAAT and Firearms II. The Phase II Written Examination will be administered during this course.

504-707 Principles of Emergency Vehicle Response **2 cr**

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase II topics: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II.

504-708 Principles of Investigations **2 cr**

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the WI Department of Justice 720 Academy curriculum framework: Constitutional Law II, Crimes II, Domestics, and Report Writing.

540-709 Applications of Traffic Response **2 cr**

Through classroom lecture, and on-campus lab, students will learn and apply skills addressed in the following Phase III topics from the WI Department of Justice 720 Academy curriculum framework: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations & Incident Management, Operating a Motor Vehicle While Intoxicated (OMVWI), Standardized Field Sobriety Tests (SFST), and Report Writing. A Phase II Written Examination will also be administered in this course.

504-710 Applications of Investigation **2 cr**

Through classroom lecture, and on-campus lab, and WI Department of Justice 720 Academy integration exercises students will learn and apply skills addressed in the following Phase II topics of the Department of Justice 720 Academy curriculum framework: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Testifying in Court, and Crimes III.

504-711 Functional Fitness for Law Enforcement **1 cr**

This course will provide several guided workouts a week to integrate all of the muscles in the body to work together in order to safely and effectively perform real life tasks. The course will assess and improve muscle strength and endurance, cardiovascular endurance, flexibility, speed and agility, dynamic power and core strength in order to prepare for the final fitness assessment. Student will set short-term goals, log workouts and progress. Students will be expected to workout outside of the class. The course is meant to improve overall fitness, form long-term fitness habits for the law enforcement career, prevent injury, complete critical and required job tasks safely and effectively, and reduce overall stress for a healthy life.

504-712 Scenario Prep – Beginner **1 cr**

Students will be introduced to scenario-based instruction and assessment, including safety protocols and scenario delivery. Introductory skills taught in Phase 1 and Phase 2 of the Law Enforcement Academy will provide the foundation of the scenarios performed.

504-713 Scenario Prep – Intermediate **1 cr**

Building on the skills demonstrated in the Scenario Prep – Beginner course, students will perform scenarios covering topics in Phase 2 and Phase 3 of the Law Enforcement Academy. Scenarios will be done at a higher level and in a more dynamic environment as student prepare for the final scenario assessment.

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.

504-902 Criminal Law **3 cr**
Principles for criminal liability; historical development; elements of crimes; criminal defenses.

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.

504-904 Juvenile Law and Justice **3 cr**
Causes and factors of delinquency; gangs; child abuse; drug abuse; police and juveniles; detention and rehabilitation; court system; intake worker.

504-905 Report Writing **3 cr**
Structure and methods of factual writing; spelling, punctuation, paragraphing, purpose and principles of effective writing; report content.

504-906 Criminal Investigations I **3 cr**
Preliminary investigation, crime scene control; identify and collect evidence; develop information; court presentation of evidence.

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.

504-909 Criminal Investigations II **3 cr**
In this hands–on course, the student will learn about and develop investigative techniques specifically for physical evidence collection, online crime investigations and current technological advances in evidence collection for all kinds of criminal investigations.

504-910 Law Enforcement Academy Prep **2 cr**
This course is meant for students who wish to apply for law enforcement academy certification. The course will provide students specific skills and hands on training for physical fitness testing,

employability skills, basic tactical and communication skills and emotional survival to prepare for success in the law enforcement certification academy and career. Must be in good physical/medical condition for fitness/sign waivers and a 2nd year Criminal Justice Program Student seeking certification.

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.

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.

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.

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.

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.

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.

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.

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.

508-110 Nutrition and Dental Health **2 cr**

Prepares student dental hygienists to counsel patients about diet and its impact on oral health. Students learn to distinguish between balanced and unbalanced diets and to construct diets that meet the needs of patients with compromised dental/oral health. Students also learn to counsel patients about the effect of eating disorders on dental health.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

509-Medical Assistant

509-130 Medical Office Procedures **2 cr**
Introduces students to medical office receptionist duties, including patient registration, telephone techniques, scheduling appointments, and maintaining the medical record. Students learn about basic medical office finances, including collecting payments, posting charges and payments, and performing banking duties. Students apply knowledge learned by utilizing electronic health record software and practice management software to perform receptionist duties. Infection control principles and federal and state regulations impacting the medical office, including HIPAA and HITECH will be stressed.

509-301 Medical Asst Admin Procedures **2 cr**
Introduces medical assistant students to office management, business administration, and the electronic medical record (EMR) in the medical office. Students learn to schedule appointments, perform filing, recordkeeping, telephone and reception duties, communicate effectively with patients and other medical office staff, and keep inventory or supplies.

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.

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.

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.

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.

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.

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.

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.

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.

512-Surgical Technician

512-327 ST: Introduction **4 cr**
Provides the foundational knowledge of disinfection, sterilization, infection control, and asepsis. Legal and ethical issues encountered in the healthcare environment are explored. Simulated laboratory practice enables the learner to develop beginning technical skills.

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.

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.

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.

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.

512-331A Surgical Procedures A **2 cr**
Provides the foundational knowledge of surgical core and specialty procedures. Examines the pathophysiology diagnostic interventions, and surgical interventions for a variety of surgical procedures. Incorporates integration of basic health sciences and technical knowledge to complete a plan of action for a surgical procedure.

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.

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.

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.

Course Descriptions

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.

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.

513-111 Phlebotomy **2 cr**

This course provides opportunities for learners to perform routine venipuncture, routine capillary puncture, and special collection procedures. The student must be a high school graduate (or equivalent) to register for this course.

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.

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.

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.

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.

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.

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.

Course Descriptions

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

515-112 Respiratory Airway Management **2 cr**
Provides a comprehensive exploration of airway management concepts and skills.

515-113 Respiratory Life Support **3 cr**
Focuses on management of adult ventilatory support.

515-145 Adv Respiratory Care Topics **2 cr**
A course to consider advanced topics and perform examination review for the RC students.

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.

515-172 Respiratory Therapeutics 2 **3 cr**
Introduces therapeutic procedures including arterial puncture, bronchial hygiene, lung expansion therapy, and pulmonary rehabilitation.

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.

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.

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.

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.

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.

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.

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.

515-181 Respiratory/Cardio Diagnostics **3 cr**
Advanced invasive and noninvasive diagnostic cardiopulmonary procedures including pulmonary function, hemodynamics and rescue medicine.

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.

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.

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.

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.

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.

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.

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.

517-323 Clinical Practicum 1 **2 cr**
This course focuses on development and improvement of skills in assigned dialysis facilities.

517-324 Clinical Practicum 2 **3 cr**
This course focuses on development and improvement of skills in assigned dialysis facilities.

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.

524-139 PTA Patient Interventions **4 cr**
An introduction to basic skills and physical therapy interventions performed by the 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.

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.

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.

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.

524-144 PTA Princ of Neuro Rehab **4 cr**
Integrates concepts of neuromuscular pathologies, physical therapy interventions, and data collection in patient treatment.

524-145 PTA Princ of Musculo Rehab **4 cr**
Integrates concepts of musculoskeletal pathologies, physical therapy interventions, and data collection in patient treatment.

524-146 PTA Cardio & Integ Mgmt **3 cr**
Integrates concepts of cardiopulmonary and integumentary pathologies, physical therapy interventions, and data collection in patient treatment.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

526-198 Radiography Clinical 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.

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.

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.

526-203 Scanning With Proficiency **1 cr**

Prepares learners for the rigors of clinical imaging by performing timed abdominal and gynecological competencies.

526-207 Abdominal Sonography **4 cr**

Prepares learners to perform ultrasounds of the abdominal organs including liver, gallbladder, biliary tree, pancreas, spleen, urinary tract, aorta and retroperitoneum. Emphasis is placed on recognizing the anatomy and pathology of the abdominal organs. Practice scan sessions included.

526-208 OB/GYN Sonography 1 **3 cr**

Prepares learners to perform ultrasounds of the nongravid uterus and the first trimester pregnancy. Explores the anatomy, physiology, and pathology of the female reproductive system as well as intrauterine and ectopic pregnancies.

526-209 DMS Clinical Experience 1 **2 cr**

Clinical 1 is a blended course. During this 8 week experience the learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on learner management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. Areas of concentration include sonography of the liver, gallbladder/biliary tract, pancreas, kidneys, retroperitoneum and non-gravid pelvic sonography both transabdominally and edovaginally. The student will apply his/her knowledge and experience in a working clinical environment. Sonographic technique, image acquisition, clinical correlation, and patient care skills are practiced under direct guidance of a registered staff sonographer. The student will become familiar with the organizational process and policies of the department. Students should strive to obtain competency in the areas of abdominal and pelvic scanning.

526-210 Cross Sectional Anatomy **2 cr**

Introduces cross sectional anatomy as related to Diagnostic Medical Sonography. Includes correlating images from other imaging modalities.

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.

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.

526-215 DMS Clinical Experience 3 **4 cr**
This course is the final clinical course of the program. It is an 11 week blended course. The learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional course work including assignments, research, case study work up, quizzes/exams, and discussions will be required on the learner management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. All imaging skills will be at entry level employment by the end of this experience. The student learner will be 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.

526-217 Registry Review **1 cr**
Prepares students to take the ARDMS examinations. Provides a review of the Diagnostic Medical Sonography competencies.

526-221 Sonography Physics 1 **3 cr**
Introduces physics and instrumentation relevant to diagnostic medical sonography. Learners explore how principles of sound propagation in tissues create a sonographic image.

526-222 Sonography Physics 2 **2 cr**
Continues the study of physics and instrumentation relevant to diagnostic medical sonography. The laboratory component of this course introduces the student to the concepts of ultrasound instrumentation, and introduction to ultrasonic scanning technique, and maintenance of ultrasound equipment.

526-223 Vascular Imaging 1 **3 cr**
Introduces the principles of vascular sonographic imaging. Learners perform a variety of peripheral vascular arterial and venous duplex exams.

526-224 Vascular Imaging 2 **3 cr**
Prepares learners to perform abdominal vascular and physiologic peripheral vascular exams.

526-226 DMS Clinical Experience 2 **4 cr**
This clinical course is a blended course. During this 8 week experience the learner will have a hands-on, interactive learning experience conducted at an approved JRC-DMS clinical site/sites (if two sites are required to offer fair opportunity). Additional Course work including assignments, research, case

study work up, quizzes/exams, and discussions will be required on the learning management system. The course is designed to help prepare the student sonographer for entry level employment in the workforce. The learner will concentrate efforts on scanning first, second, and 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.

530-Medical Records

530-103 Medical Insurance & Billing **2 cr**

The focus of this course is medical insurance billing and claims processing. Requirements for processing claims from an insurance company perspective and the medical facility perspective are addressed. Specific insurance types include managed care organizations. Medicare, Medical Assistance, and commercial payers. An overview of CPT and ICD coding systems is provided. Fraud and abuse initiatives and compliance requirements are reviewed.

530-150 Applied HIM Technology **3 cr**

A project-based course designed to align with current practices and the evolving roles in HIM. Learners will apply changes in healthcare legislation, healthcare regulatory requirements, and computer technology to the collection, storage, retrieval, analysis, reporting, and management of healthcare data. Includes further application of skills in data analysis, critical thinking, and project management.

530-160 Healthcare Informatics **4 cr**

Emphasizes the role of information technology in healthcare through an investigation of the electronic health record (EHR), business, and health information software applications. Learners will develop skills to assist in information systems design and implementation.

530-161 Health Quality Management **3 cr**

Explores the programs and processes used to manage and improve healthcare quality. Addresses regulatory requirements as related to performance measurement, assessment, and improvement, required monitoring activities, risk management and patient safety, utilization management, and medical staff credentialing. Emphasizes the use of critical thinking and data analysis skills in the management and reporting of data.

530-176 Health Data Management **2 cr**

Introduces the use and structure of health care data elements, data sets, data standards, their relationships to primary and secondary record systems and health information processing.

530-177 Healthcare Stats & Research **2 cr**

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

530-178 Healthcare Law & Ethics **2 cr**

Examines regulations for the content, use, confidentiality, disclosure, and retention of health information. An overview of the legal system and ethical issues are addressed.

Course Descriptions

530-181 Intro to the Health Record **1 cr**

Prepares learners to illustrate the flow of health information in various health care delivery systems and within the health information department. Prepares learners to retrieve data from health records. Professional ethics, confidentiality and security of information are emphasized.

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.

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.

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.

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.

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.

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.

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.

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.

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.

531-Emergency Medical Service

531-110 Emergency Medical Technician **5 cr**

This course prepares students for all aspects of emergency medical care, both medical and trauma situations, sanctioned by the Wisconsin Division of Health, at the basic level. Following the most current Wisconsin Revision of the National Standard Curriculum, this course includes didactic and practical skill information in the following areas: legal aspects, anatomy and physiology, patient assessment, critical thinking skills, airway adjuncts, fractures and dislocations, spinal injuries, soft tissue wounds, pharmacology, stroke, cardiac, diabetic, respiratory, altered mental status, pediatric, geriatric, ambulance operations, and triage. A student should be prepared to obtain 100 percent proficiency in all areas through punctuality, attendance, completion of assignments, class participation, and full cooperation with the instructor. Prerequisite: American Heart Association Healthcare Provider CPR (531-454) or American Red Cross CPR For The Professional Rescuer or American Safety And Health Institute CPR Professional Level CPR/AED or American Academy Of Orthopedic Surgeons Professional Rescuer CPR or Medic First Aid Basic Life Support For Professionals.

531-115 RN to EMT-Basic Transition **2 cr**

The RN to EMT Basic Transition Course bridges the gap between currently licensed RNs and the Emergency Medical Technician-Basic. This 48-hour course includes didactic and practical skill information utilized by pre-hospital care providers that is not a usual part of the scope of practice for a registered nurse. Covered in this training is information ranging EMS Systems, airway equipment and patient assessment to splints, spinal immobilization devices and ambulance cots-all the devices utilized by EMTs on an ambulance. Included in the course will be written exams and development competencies in practical applications; ambulance ride-along will provide the opportunity to complete the required 5 patient contacts. Upon successful completion of this course, the RN will be able to participate in the National Registry of EMT computer exam and practical exam. Prerequisites include current Healthcare Provider CPR certification and a current RN license. Proof of these must be presented at the first session.

531-140 FireMedic Fundamentals **5 cr**

This course orients the student to the culture, organization, and history of the Fire Based EMS-Service. Students understand the roles and responsibilities of the FireMedic. Topics include ethics, legal aspects, wellness and injury prevention, communication, documentation, history-taking, and decision-making. Several medical skills are reviewed including physical exam techniques, pathophysiology, and patient assessment.

531-170 FireMedic Internship **4 cr**

The student is required to complete documented practical skills application and observation at the beginning Firefighter I/EMT-Paramedic level. The student will perform required skill competencies at a fire-based EMS field internship site under the direct supervision of an approved preceptor.

531-180 Intro to Adv Pre-hospital Care **4 cr**

This course will serve as a bridge from the EMT-Basic into Advanced Life Support course offerings inclusive of EMT-Intermediate, Paramedic and FireMedic. Course will include lab (simulation). With competency validated, 128 hours of on-the-job training will follow with an ambulance service. This course will lead to a better prepared learner as student moved into advanced level course work with a better understanding of occupation and expectation of the work place.

531-187 FireMedic Adv Emerg Resus **1 cr**

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, the course prepares the FireMedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible.

531-190 FireMedic Capstone **1 cr**

This course provides the FireMedic student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through lab 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.

531-351 Paramedic Fundamentals **2 cr**

This introductory course establishes the fundamental principles of Emergency Medical Services including the paramedic's roles and responsibilities. The course includes essential components of paramedic knowledge such as the workings of the EMS system, medical-legal aspects, ethics, medical terminology, documentation, critical thinking, and advanced assessment skills.

531-352 Pharmacology for Emer Medicine **3 cr**

This course focuses on administration, absorption, distribution, metabolism, and excretion of drugs, their effects on the body, and the paramedic's roles and responsibilities related to drug therapy.

531-353 Airway Management **1 cr**

Course work focuses on advanced assessment of the airway, ventilation, and oxygenation. Paramedic students will be able to assess the airway and oxygenation, establish and/or maintain a patient airway, oxygenate and ventilate a patient utilizing basic and advanced skills. Much of this course is competency based.

531-354 Trauma Care **3 cr**

This course is a study of the kinematics, pathophysiology, assessment, and management of common traumatic emergencies. Course work includes completion of Pre-Hospital Trauma Life Support (PHTLS).

531-355 Cardiovascular Emergencies **4 cr**

This course is a study of the pathophysiology, assessment, and management of common cardiovascular diseases. Course work comprises of basic and advanced electrocardiogram interpretation, including 12-lead ECGs and completion of Advanced Cardiac Life Support (ACLS).

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).

531-357 Medical Emergencies **4 cr**

This course is a study of the pathophysiology, assessment, and management of common medical emergencies including pulmonary, neurologic, endocrine, gastroenteral, renal/urologic, toxicologic, hematologic, environmental, infectious, and behavioral.

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.

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.

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.

531-374 Advanced Life Support Skills **1 cr**

This course is designed as an update on current trends in Paramedic care for adults, pediatrics, and infants. Students will review and employ the latest skills found within the Paramedic's scope of practice and commonly performed by Paramedics on 911, inter-facility, and in-hospital patient contacts. Skills covered include: Advanced assessment techniques, basic and advanced airway management, including numerous techniques for tracheal intubation, surgical airways, and rapid sequence intubation (RSI), electrical therapy, medication administration, vascular access, chest decompression, chest tube management, arterial and central line management, emergency child birth, and GI/GU catheterization. Students must be licensed Paramedic, RNs, or Paramedic students in their final semester of the Paramedic program.

531-375 Internship I **3 cr**

During this course, the paramedic intern will function in the pre-hospital 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.

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 pre-hospital environment.

531-911 EMS Fundamental **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 Adv. Patient Asses. Principles **3 cr**

This course teaches the paramedic student to integrate scene and patient assessment findings with knowledge of epidemiology and pathophysiology to form a field impression. By utilizing a structured and organized assessment process with knowledge of anatomy, physiology, pathophysiology, life span development, and changes that occur to the human body with time, the students will learn to develop a list of differential diagnoses through clinical reasoning, along with the ability to modify the assessment as necessary to formulate a treatment plan for their patients.

531-914 Adv. 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 Mgt. **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 afield 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 1 **3 cr**

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in field and health care environment experiences with actual patients under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course.

531-918 Adv. Emergency Resuscitation **1 cr**

By teaching Advanced Cardiac Life Support (ACLS) and Pediatric Advanced Life Support (PALS) methodologies and protocols, this course prepares the paramedic student in the integration of comprehensive knowledge of causes and pathophysiology into the management of shock, respiratory failure, respiratory arrest, cardiac arrest, and peri-arrest states with an emphasis on early intervention to prevent respiratory and/or cardiac arrest if possible.

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.

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 **1 cr**

This course provides the student with a final opportunity to incorporate their cognitive knowledge and psychomotor skills through labs and scenario-based practice and evaluations prior to taking the National Registry written and practical examinations. Technical Skills Attainment (TSA) for each student will be compiled and/or documented within this course as required by the DHS-approved paramedic curriculum.

531-924 Paramedic Clinical/Field 2 **4 cr**

This course provides the student with the opportunity to enhance his or her learning through the practice of paramedicine in the field and health care environment experiences with actual patients

under the supervision of instructors or approved preceptors. Students may also have the opportunity to participate in formal high-fidelity human patient simulator experiences as a part of this course. Successful completion of this course requires the student to meet all clinical and field competency requirements at the paramedic level as defined by WI DHS EMS.

534-Central Services Tech/Asst

534-300 Central Serv Tech, Fundamentls **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.

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.

536-Pharmacy

536-110 Pharmaceutical Calculations **3 cr**

Prepares the learner to convert weights and volumes between the avoirdupois, the apothecary, and the metric systems of measurement; utilize ratios and proportions; reduce and enlarge pharmaceutical formulas; calculate medication quantities from percent w/w, w/v, v/v, pm, and ratio concentrations; perform dilution calculations; utilize the allegation method; solve problems related to electrolyte solutions; convert temperatures between the Fahrenheit and Celsius scales; convert military and standard time; and calculate individualized patient dosages based on body surface area, age, and/or weight of the patient.

536-112 Pharmacy Business Apps **4 cr**

This course prepares the learner to summarize pharmacy policies dealing with the Health Insurance Privacy and Portability Act (HIPPA), analyze criminal activities in the pharmacy, assess the operation and location of pharmacy equipment, utilize information posted in the pharmacy, analyze the work culture of the pharmacy, analyze the steps in processing a prescription, analyze patient profile information, analyze issues affecting the practice of pharmacy, market employment skills, analyze patient safety issues, analyze pharmacy front of store operations, analyze methods used to prepare extemporaneous compounds, and analyze customer service issues.

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.

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.

536-122 Pharmacology for Pharmacy Tech **3 cr**

Prepares the learner to summarize treatments for diseases of the Musculoskeletal, Dermatologic, Endocrine, Reproductive, Cardiovascular, Respiratory, Hematologic, Immune, Nervous, Gastrointestinal, Renal eyes, ears, nose, and throat, as well as the use of antineoplastic and geriatric drugs.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

543-106 Nursing Health Promotion **3 cr**

This course will cover topics related to health promotion in the context of the family throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, post-partum, the newborn, and the child. Recognizing the spectrum of health families we will discern patterns associated with adaptive and maladaptive behaviors applying mental health principles. An emphasis is placed on teaching and supporting healthy lifestyle choices for individuals of all ages. Nutrition, exercise, stress management, empowerment, and risk reduction practices are highlighted. Study of the family will cover dynamics, functions, discipline styles, and stages of development. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance.

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.

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.

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.

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.

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.

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.

543-113 Nsg: Complex Health Alterat 2 **3 cr**

This course prepares the learner to expand knowledge and skills from previous courses in caring for clients across the lifespan with alterations in the immune, neuro-sensory, musculoskeletal, gastrointestinal, hepatobiliary, renal/urinary and the reproductive systems. The learner will also focus on management of care for clients with high-risk perinatal conditions, high-risk newborns and the ill child. Synthesis and application of previously learned concepts will be evident in the management of clients with critical/life threatening situations. Note: For Online offerings of this course: Online test dates are announced/posted in advance for students. Faculty will list in syllabus how far ahead students may work in an online course. Online courses are NOT self-paced or independent study. Faculty will list in the syllabus use of acceptable proctors. Faculty will NOT leave tests open more than one day unless pre-arranged and agreed upon in advance.

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.

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.

Course Descriptions

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.

543-164 Re-entry to Nurs Practice **1 cr**

This course is designed for the Advanced Placement Nursing student to prepare for successful transition into the second year of the nursing program. Students are provided an opportunity to develop skills that will prepare them for the rigor of the program. Emphasis will be placed on application of the nursing process in a variety of settings. Successful completion of this course is required to progress into the program.

543-166 Intro to Emerg Dept Nursing **3 cr**

This certification is designed to expand the student's knowledge of nursing practice in the emergency nursing environment. This online course specializing in Emergency Department Nursing gives participants the essential knowledge base required for assessment and initial management of the emergency patient. By completion of the course, participants will not only validate competency, but also demonstrate a greater commitment to specialty and quality health care. This course focuses on determining priorities of care in the assessment of ill or injured emergency patients. Topics covered include triage, assessment, and management of shock; fluid resuscitation; and stabilization of respiratory, neurological, thoracic, and abdominal injuries, basic EKG interpretation and ACLS. This certificate may lead to enhanced career advancement potential and/or employability in an emergency area. Prerequisite: Student currently enrolled in 3rd or 4th semester Associate Degree nursing classes at CVTC or RN with active nursing license.

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. A Wisconsin criminal background check is required at the start of class. This course is not eligible for financial aid.

543-301 Introduction to Geriatrics **1 cr**

The Introduction to Geriatrics course will offer training in four areas of care as they relate to the geriatric population in the long term care setting; dementia, restorative care, end of life and prevention/management of wounds. It is designed for certified nursing assistants working in long term care to increase knowledge and understanding of the resident population, encourage lifelong learning, promote the use of technology, and improve job satisfaction through the power of knowledge. Nursing Assistants who complete the course are eligible to receive the Geriatric Nursing Assistant Certificate.

Course Descriptions

550-Alcohol & Other Drug Abuse

550-102 SUD Counseling/Interviewing **3 cr**

Introduction and application of basic counseling/communication micro-skills used in individual and group therapy. Ivey's intentional interviewing and counseling and Miller's Motivational Interviewing will provide the foundation for utilizing these skills with substance use disorder patients. Learners will record and critique practice in the lab setting and must demonstrate effective counseling skills.

550-104 Internship I **2 cr**

Learners spend eight hours per week over 16 weeks (total 128 hours) at a clinical site to observe, and get some introductory practice in the substance use disorder counselor eight practice dimensions (the basic tasks and responsibilities that constitute the work of a substance use disorder counselor), and 12 core functions (the observation and practice of skills while treating substance use disorder patients under the close supervision of a clinical supervisor). Learners read agency policies and procedures, document clinical hours, develop a learning plan, submit weekly clinical notes on progress toward plan goals, complete written assignments and tests, engage in discussion, and demonstrate core function knowledge and professionalism and employability skills. Eight hours are allocated for on-campus seminars held throughout the internship.

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.

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.

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 SUD Counseling Theory/Methods **3 cr**

After an introduction and overview of pscyhoanalytic, 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.

550-111 Group Facilitation **2 cr**

Introduction to theory and practice of group dynamics in the treatment field. Knowledge areas covered are: types of groups, 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.

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

Explore the causes and effects of substance use disorders treatment and prevention settings and approaches, resources, and professional certification. Outline assessment criteria for clinical identification of these disorders and effective treatment techniques. Differentiate prevention from and treatment approaches and resources. Investigate own lifestyle choices. Discover review history of the profession, current issues, professional and ethical standards, and knowledge and skills expectations for substance use disorder counseling.

550-114 Ethics & Public Policy **3 cr**

Examine personal attitudes, values, and motivations regarding working in the treatment profession. Apply federal and state guidelines to case examples in the areas of confidentiality, patients' rights, dual relationships, fraudulent behavior, and other ethical issues. Become familiar with professional codes of conduct for the substance use disorder counselor and adhere to them by practicing in accordance with the highest ethical standards. Review the intent and effectiveness of public policies relative to the treatment profession. Advocacy on current policy issues affected by managed care and government structure and process is introduced.

550-115 SUD Assessment & Tx Planning **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 utilize Wisconsin UPC guidelines. Write Treatment plans based on evaluation findings. Learners will complete interview and documentation practice, along with reading, written assignments and exams.

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.

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.

550-122 Psychopharmacology **3 cr**

A basic pharmacology course covering mainly drugs capable of altering states of consciousness. Pharmacological classes of drugs studies include: CNS stimulants and depressants, hallucinogens, marijuana, inhalants, antidepressants, antipsychotics, and alcohol. Additional topics include: neuroanatomy, the action of agonists and antagonist on cell receptors, dosage calculations, and the development of tolerance. Each drug class studied will discuss the mechanism of action, metabolism, pharmacokinetics, dosage, names (street, generic and brand), approved medical use, chronic and acute toxicity, symptoms of withdrawal, drug interactions, dosage, routes of administration, and available preparations. The use and benefits of both conventional and computer based pharmacological reference material will be stressed. Students will learn the incidence of drug use and abuse in society, the pharmacology of selected drugs, and the principles of altering one's state of consciousness. Students will gain an established personal view of drug use and will be able to communicate their attitudes. Alternatives to substance abuse and approaches to prevention and community resources will be explored.

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.

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.

550-160 SUDs & Mental Disorders **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.

550-161 SUDs & Criminality **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.

550-199 AODA Independent Study **4 cr**
Students will be assigned special projects or field experience at an agency or organization in their field of study. Preapproval by instructor is required to register for this class.

599-100 Health & Wellness **1 cr**
This course is offered at Fox Valley Technical College through distance education. It is designed for the Fire Protection students, introducing them to lifestyle choices for health and wellness. The study guide and textbook include topics such as fitness, diet, weight management, stress management, and self-care. Prerequisite: CVTC Program Director approval.

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.

601-111 Principles of Refrigeration **3 cr**
The purpose of the course is to assist the student in developing and understanding of the basic refrigeration system. Proper use of tools and test equipment for installation and servicing of domestic and commercial refrigeration systems is covered in detail. Soldering, Brazing and flaring of copper tube systems is an essential skill developed in this course. The safe handling of refrigerants along with EPA refrigerant handling certification is a priority.

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.

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.

601-114 Plan & Print Reading-HVAC **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.

601-116 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.

601-117 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 uses AutoCAD to create duct layout and piping drawings, equipment schedules, and details for the HVAC system he or she designs in HVAC System 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.

601-118 Sustainability for HVAC **1 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.

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 HVAV/R types of equipment will be worked on.

601-122 HVACR Industry Skills **1 cr**
This course is designed to teach the student specific skills related to the Heating, Ventilating, Air Conditioning and Refrigeration (HVACR) industry.

601-125 Safety - HVAC **1 cr**
This course provides OSHA based safety training for the HVAC industry.

601-130 Sheet Metal Layout **1 cr**
The student will layout and fabricate a variety of sheet metal fittings. Safe working practices are reviewed and stressed. The proper use of hand tools, shears, benders and other types of sheet metal equipment are detailed and demonstrated. One and two piece duct, reducers, elbows, offsets, plenums, drive cleats, S-locks, and square to round transitions are fabricated and assembled.

601-141 Electricity-HVAC **3 cr**
The fundamentals of electricity/electronics with application to air conditioning, heating, and refrigeration will be covered in this course. An introduction to alternating and direct current and the physical laws that apply to electrical circuits are covered. Ohms law and its properties are detailed. The student will acquire an understanding of electrical meters, motors, and controls as used in the HVAC/R industry.

601-142 Schematic Wiring-HVAC **2 cr**
Learning to read and interpret electrical schematics found on a variety of HVAC/R equipment is the priority. By referring to an electrical schematic the student wires and operates HVAC/R equipment. The course helps in explaining and showing how each electrical component functions in an electrical circuit.

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.

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.

601-161 HVAC Load Calc & Psychrometric **3 cr**
Computer software is used to calculate heat loss and heat gains on residential and commercial buildings. Prerequisite: 854-771 Basic Algebra.

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.

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.

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.

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.

605-116 Engineering Electronics **3 cr**
This course will give the student a basic understanding of electronics used in engineering. Emphasis will be on basic principles of electronics and how those may be applied to understanding the operation and troubleshooting of electronic instruments. Topics covered include active and passive devices, analog and digital circuits, and AC and DC circuits. Practical skills include bread-boarding, simulating circuits, circuit layout, printed circuit board fabrication, soldering, trouble shooting, using digital multi-meters, and oscilloscopes.

605-134 Network Infrastructure Cncpts **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.

605-152 SCADA Concepts **2 cr**

SCADA stands for Supervisory Control And Data Acquisition. This course will focus on industrial applications of acquiring data from PLC based equipment using industrial and Ethernet networks. Display of data will use industrial display terminals such as the Allen-Bradley Panel View and Microsoft Excel spreadsheet using DDE technology. Additional applications utilizing ASCII text strings and HyperTerminal will be investigated.

606-Mechanical Technology

606-102 Principles of Design **2 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 run out 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.

606-130 Solid Modeling I **3 cr**

This course introduces the student to the concepts and commands required to develop 3-D solid models using SolidWorks software. Students will learn to constrain models and develop parametric models. Students will also produce 2-D working drawings from the models. Topics will also include dimensioning, orthographic views, and section views.

606-131 Solid Modeling II **3 cr**

The student will develop complex parametric models, assemblies, and working drawings, apply drawing standards, materials, and tabulated dimensions. Part families, sheet metal parts, welded assemblies, exploded assemblies, software generated bills of material, and simple animation will also be covered.

606-135 SolidWorks for Welders **3 cr**

This course is intended for Welding Fabrication program students. Topics include basic solid modeling processes, geometry sketching, features, working drawing for production, general dimensioning with weld symbols, and assemblies for construction of solid models. Student will trouble shoot, edit, modify solid models and geometry. Students will have the opportunity to become a Certified SolidWorks Associate.

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 applications such as robotics, and computer integrated technologies are also included with local case studies of industry. Applications and fundamental inspection techniques associated with the various materials are explored.

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.

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.

Course Descriptions

607-Civil Engineering Technology

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.

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.

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.

614-Architectural Technology

614-100 Draft Fund/Wood Frame Construc **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 residential building according to 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."

614-111 Architectural Drafting 1 **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.

614-113 Architectural Drafting 2 **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.

614-117 Revit Architecture **3 cr**

In this course the student will learn the basics of the Revit Architecture software. The student will use Revit to develop a building model and create floor plans, sections, elevations, structural framing system and details from the building model. The student will also explore enhancements which are added to AutoCAD through the use of AutoCAD Architecture software. The student will develop problem-solving strategies, increase their efficiency, and cope with change in his/her software environment. The student will use these programs for creating construction documents.

614-123 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 and the Steel Joist Institute's 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 and details.

614-124 Construction Concrete **2 cr**

This course familiarizes the student with concrete construction. The student will become familiar with the concrete types and additives. The student will calculate footing sizes and draws typical details of concrete footings, foundation walls, floor and roof systems, precast systems and concrete stairways. The student will also learn the fundamentals of testing concrete cylinders.

614-125 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.

614-140 Structural Analysis **4 cr**

This course introduces the first semester students 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 program.

614-148 Structural Drafting 1 **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, 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.

614-149 Structural Drafting 2 **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 more about structural steel, weld types, and weld symbols. The student then 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. In the last part of this course, the student learns how to detail skewed beams, which are very common in nonrectangular framing.

614-151 Tech Problems-Arch 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 using the Revit Architecture software. This project also includes all required structural design calculations. The structural design calculations are typical of those that arise daily in actual design office practice.

614-152 Construction Methods **2 cr**

This course coordinates information and understanding developed in Construction Concrete and Structural Analysis and expands previous learning into a systematic study of applied design procedures for commercial construction projects using reinforced concrete for their structural support. The content of this course and the presentation of the material are geared toward the development of an orderly and systematic procedure for solving applied reinforced concrete design problems and the ability to use good judgment and practical considerations in the choice, design, and erection of reinforced concrete structures. The student will also learn the fundamentals of detailing rebar. Upon completion of this course, the student should be capable of performing basic calculations for the component parts of a variety of structural concrete framing systems and develop basic plans, details, and calculate quantities for detailing rebar.

614-155 Surveying & Site Planning **4 cr**

An elementary course in surveying, including the fundamentals of plane surveying and care of equipment. The course includes theory and field problems in distance measuring, leveling, measuring, vertical and horizontal angles, topographical surveying, construction location surveying, and water detention. The last unit of study is devoted to land descriptions.

614-160 Model Based Steel Detailing **3 cr**

In this course the student learns how to use SDS/2 steel detailing software, one of the more advanced 3D-drafting systems used by structural steel detailers in the industry today. The fourth-semester student first uses the SDS/2 Drawing Editor to complete a variety of detailed shop drawings of

structural steel beams. The student then goes through basic training on SDS/2 3D Modeling, and once this training is complete, he/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.

614-164 CAD Architecture **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 this course, the student should have developed basic skills related to computer-aided drafting and should be able to use CAD on advanced projects in the future classes.

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.

620-135 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).

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.

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.

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.

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.

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.

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.

620-155 Industrial Electronics I **2 cr**

Concepts of basic industrial control electronics. Fundamentals of ladder logic and control wiring. Reading and interpreting ladder logic, wiring diagrams, and one-line diagrams used in industry. Using Actrix Technical by Auto Desk to create ladder logic for applications. The importance of using wire numbers and wire color codes in accordance with NFPA 79 (National Fire Protection Association) standards. The students will work with and gain knowledge of the following components: transformers, power supplies, fuses, disconnect switches, circuit breakers, relays, solenoids, pressure switches, limit switches, timers, latching relays, push buttons, and selector switches.

620-156 Industrial Electronics II **2 cr**

In-depth concepts of industrial control and power circuits. Counters, temperature controllers, forward and reversing motor starters, 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.

620-158 Sensors **2 cr**

This course investigates theory, application, and troubleshooting of various sensor technologies including wiring and testing of sensor configurations. This course covers non-contact sensing fundamentals and interfacing.

620-191 Motion Control Applications **3 cr**

The studies the fundamentals of steeper 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.

620-193 Electronic Software Applic **2 cr**

This course consists of an introduction to computer software applications used in all of the Electronics Technologies Center Programs. Topics include an introduction to the following software: Microsoft

Windows, Internet, Using email, Word 2013, Excel 2013, and Visio 2013. This list may change to meet the changing demands of the course and the availability of software.

623-Industrial Manufacturing Tech

623-001A Office Lean **1 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.

623-101 Engineering Principles **1 cr**

Engineers must consider material properties and process capabilities to design and make products. This introductory course will explore the principles of engineering with an emphasis on the fields of nanoscience, manufacturing, and food science. Students will encounter the challenges of engineering by designing and building projects that involve problem solving, teamwork, professionalism, and ethics.

623-107 Engineering Materials **3 cr**

This course will explore the materials used for modern manufacturing. The course explores how atomic bonds and molecular influence the properties of metals, ceramics, polymers, and semiconductors. Related topics include crystal lattice structure, defects, diffusion, stress, and strain.

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.

623-111 Measurement for Engineering **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 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.

623-114 Industry Practicum **3 cr**

The student will conduct 216 hours in an onsite work environment in the food processing, electronics fabrication or other micro/nano technology related work environment. For students unable to coordinate an internship, a practicum opportunity may be available for coordination.

623-120 Work Analysis **3 cr**

Tools and techniques of the time study technician; elements of work, the work place, ergonomics, psychological environment; interpretation of the law of motion economy, division-of-accomplishment concept; quantitative techniques, line balancing.

623-125 Statistical Process Control **3 cr**

The Deming philosophy utilizes statistical techniques to analyze and improve the quality of manufactured goods; statistical concepts enabling operators and managers to make data based quality and productivity improvement decisions.

623-130 Lean Fundamentals **2 cr**

This class provides an introductory study of the Lean Manufacturing philosophy to reduce or eliminate waste in a manufacturing setting. The students will become familiar with the fundamental 5-step process sequence of Lean: 1) Specify value from the customer perspective, 2) Identify the value stream steps for product families and eliminate waste, 3) Improve product flow to increase value creating steps, 4) Improve value connections with upstream customers, and 5) Stabilize processes and continue improvement for waste reduction. Lean terminology and tools used such as 5S will be examined along with the benefits and pitfalls encountered in implementation.

623-131 Blueprint Reading & Geom Toler **2 cr**

Engineering language used on blueprints; interpretation of blueprints; good communication between designer and machinist-manufacturer; use and interpretation of geometric dimensioning on engineering drawings.

623-132 Manufacturing Workplace Safety **2 cr**

Students will identify, analyze, and recommend improvements to work areas to minimize the opportunity for workplace injuries to provide for a safe and secure manufacturing work environment. Learners will demonstrate knowledge of workplace safety standards (federal, state, and workplace compliance) and ergonomics, as well as the processes of incident reporting, investigation and documentation.

623-154 Engineering Economy **3 cr**

Application of interest formulas in financial decision-making; source and application of funds in capital budgeting and replacement decision making; effect of income tax laws on decision alternatives.

623-156 Facil Layout & Mat Handling **3 cr**

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

623-161 Tech Problems-Ind Eng Tech **3 cr**

Independent study of appropriate approved topic; final written report required.

625-Quality Interdisciplinary

625-110 Mfg & Quality Assurance **3 cr**

Develops an overview knowledge of quality assurance to provide instruction in methods for measuring quality within manufacturing processes. Students learn the components of a quality assurance program such as quality goals, benchmarks, leadership, and motivation. This course addresses the philosophies of leaders in the field, industry trends, quality standards (ISO and Six Sigma) and how quality assurance relates to specialties in manufacturing, food, biotechnology, micro/nano electronics, service, and pharmaceuticals.

625-120 Quality & Cont Improvement **3 cr**

The Manufacturing Skills Standards Council (MSSC) Quality and Continuous Improvement certification is built upon standards for foundational skills and knowledge in the manufacturing setting. This certification capitalizes on a blended learning approach, students experience lectures, self-paces studies, online labs, and individual and group activates. Course topics include: performing internal quality audits, calibration of data collection equipment, continues improvement, quality test documentation, and quality maintenance adjustments among others. Once the course is completed, students may take the Quality and Continuous Improvement certification exam.

625-121 MFG Process & Production **3 cr**

The Manufacturing Skills Standards Council (MSSC) Manufacturing Process and Production certification is built upon standards for foundational skills and knowledge in the manufacturing setting. This certification capitalizes on a blended learning approach, students experience lectures, self-paces studies, online labs, and individual and group activates. Course topics include: machine automation, electrical principles, mechanical principles, pneumatic pressure and flow, bearings and couplings among others. Once the course is completed, students may take the Manufacturing Process and Production certification exam.

625-122 MSSC: Safety **3 cr**

In the MSSC Safety course Students will be exposed to manufacturing concepts and actions that can produce higher quality products, increase productivity, achieve greater customer satisfaction, and assure a safe and healthy work environment. This course is broken down with definitions, examples, and exercises. Practical cases/examples are investigated and discussed. Capitalizing on a blended learning approach, students experience lectures, self-pace studies, on-line labs, and individual and group activities.

625-123 Maintenance Awareness **3 cr**

The Manufacturing Skills Standards Council (MSSC) Maintenance Awareness certification is built upon standards for foundational skills and knowledge in the manufacturing setting. This certification capitalizes on a blended learning approach, students experience lectures, self-paces studies, online labs, and individual and group activates. Course topics include: preventative maintenance and repair, indicator monitoring, housekeeping and production schedules, recognizing potential maintenance issues, electrical systems, pneumatic systems, and hydraulic systems among others. Once the course is completed, students may take the Manufacturing Process and Production certification exam.

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.

625-170 Quality Practices & Measuremnt **2 cr**

Practice quality control through policies and procedures used in business and industries. Utilize learn manufacturing principles such as ISO and Six Sigma methodologies to record and track quality through precise measurement tactics.

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.

635-103 Lab Science Instrumentation **2 cr**

This course will train students to operate common laboratory instruments used in high technology laboratories. Instruments will include spectroscopy, microscopy and metrology. Instruments used in biological laboratories will also be introduced such as electrophoresis and polymerase chain reaction thermocyclers. Spectroscopy equipment will include ultraviolet, visible, infrared and X-ray. Microscopy will include optical microscopy, electron microscopy and scanning probe microscopy. Other forms of metrology such as reflectometry and profilmetry will be included. Students will also learn how to prepare samples for analysis.

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.

635-114 Biotechnology Lab **2 cr**

This lab will cover particle formation and size measurement; aerosol sampling; optical and condensation counters; and fabrication and testing of an electropheresis biochip.

635-118 Intro to Biotechnology **3 cr**

This class examines the structure and function of the cell at the nanoscale. Topics include catalysis and biosynthesis, protein structure and function, genomics, gene manipulation, cell membrane structure and transport, cell communication, motor proteins and cancer. Emphasis will be on how cellular processes relate to bioMEMS, lab on a chip, sensors, diagnostics and biomedical devices.

635-119 Introduction to MEMS **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, and chemical sensors. Students will continue their experience in microfabrication and microelectronics manufacturing to design and manufacture MEMS in the cleanroom.

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.

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.

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.

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".

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.

801-219 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.

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.

801-239 Contemporary American Lit **3 cr**

Examines major authors and works from the late 19th century to the present in American prose, drama, and poetry.

801-240 Intro to Creative Writing **3 cr**

This class is designed to introduce students to appreciation, analysis, creation, and publication of contemporary literary fiction and poetry. Through reading, writing, editing and in-class activities, students will learn the history, trends, and processes of creating innovative, well-written, publishable literary pieces.

801-243 Early American Literature **3 cr**

Examines writings of the Colonial through the Civil War periods, including Native American traditions.

801-351 Applied Communication **2 cr**

Develops skills in the four areas of communication--reading, writing, speaking, and listening--emphasizing practical application of the skills for the workplace environment.

801-355 Applied Written/Intrprsnl Comm **1 cr**

This course emphasizes interpersonal and writing skills for the workplace environment. Students will gain practical interpersonal workplace skills in listening, speaking, nonverbal, conflict resolution and customer service, and training presentations. They will also acquire practical, business-related skills through reading, writing, revising, and grammar exercises.

801-356 Applied Job/Interpersonal Comm **1 cr**

This course emphasizes the importance of having effective interpersonal communication in the workplace environment and the practical components of job-seeking skills. Students will gain practical workplace skills in listening, speaking, nonverbal, conflict resolution and customer service, and training presentations. Additionally, they will polish a resume, practice their interview skills, explore a company's background, assess and refine their personal career goals, and establish a purpose for writing in their career field.

801-357 Applied Written/Job Seek Comm **1 cr**

This course emphasizes the importance of effective workplace writing and the practical components of job-seeking skills. Students will acquire practical, business-related skills through reading, writing, revising, and grammar exercises. Additionally, they will polish a resume, practice their interview skills, explore a company's background, assess and refine their personal career goals, and establish a purpose for writing in their career field.

802-Foreign Language

802-102 Spanish for the Green Industry **2 cr**

Introduces basic conversation skills in Spanish to those working in the Green Industry. Emphasizes the use of vocabulary and expressions needed for communication in horticulture, landscaping, nursery/greenhouse and turf management. Addresses cultural aspects of working with Spanish speaking populations.

802-103 Spanish for the Workplace **2 cr**

Introductory conversational Spanish for the person whose business works with Spanish-speaking employees and/or customers. Emphasis is on everyday language usage and interaction rather than a formal grammar approach.

802-211 Spanish 1 **4 cr**

This course provides an introduction to the Spanish language through the basic development of the four core language components: listening, speaking, reading and writing. It provides students with the basic conversational and communicative strategies necessary to carry out simple yet meaningful tasks common in everyday social interactions. Further, it exposes students to many cultural aspects of the Spanish speaking world.

802-212 Spanish 2 **4 cr**

This second semester introductory course is a continuation of Spanish 1. It focuses on development of listening, speaking, reading, and writing skills, and the further development of basic conversational and grammatical tools introduced in the first semester. It also focuses on the expansion of students' cultural awareness with regard to the Spanish-speaking world.

803-History

803-211 U.S. History to 1877 **3 cr**

A survey of the history of the United States to 1877. Emphasis is placed on colonial settlement & development, the movement for independence, the establishment of government under the Constitution, westward expansion, emergence of sectionalism and the Civil War, and the period of Reconstruction.

803-212 U.S. History 1877-Present **3 cr**

A survey of the political, economic, social and cultural history of the United States from 1877 to the present. Emphasis is placed on the post reconstruction Jim Crow South, Native American relations, the Gilded Age, Industrialization, Populism and the Progressive Movement, World War I, the New Deal, World War II, the Cold War, Civil Rights, the Vietnam War, Conflict in the Middle East (Iran and Iraq), and Post 9/11 America.

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 residency, 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.

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.

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; measurement systems; 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 Math 1A and College Technical Math 1B is the equivalent of College Technical Math 1.

804-114 College Technical Math 1B **2 cr**

This course is a continuation of College Technical Math 1A. Topics include a basic introduction to graphing; 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 Math 1A is required for course enrollment. Successful completion of College Technical Math 1A and College Technical Math 1B is the equivalent of College Technical Math 1.

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.

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.

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.

804-123 Math w Business Apps **3 cr**

This course covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process and basic statistics with business/consumer applications.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

804-360E Math for Tech Trades-Trans **2 cr**
Math for transportation is an applied technical math course designed for students in one of the transportation programs. The course includes basic arithmetic, percents and ratios, unit conversions, linear algebra, and basic geometry with an emphasis on transportation applications.

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.

804-363 Math for Electricty & Electrnc **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.

804-370 Math Apps for Manufacturing **3 cr**
This course will teach students how to use arithmetic, algebra, and geometry as problem solving tools. Topics include integers, fractions; decimals; percentages; ratio and proportion; practical algebra; practical plane geometry; solid geometry; and right angle geometry. The course will focus on solving problems related to the Welding profession.

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.

806-134 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.

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.

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.

806-177 Gen Anatomy & Physiology **4 cr**

Examines basic concepts of human anatomy and physiology as they relate to health sciences. Using a body systems approach, the course emphasizes the interrelationships between structure and function at the gross and microscopic levels of organization of the entire human body. It is intended to prepare health care professionals who need to apply basic concepts of whole body anatomy and physiology to informed decision-making and professional communication with colleagues and patients. Prerequisite of a C or better in high school or college chemistry with a lab component and a COMPASS Reading score of 80. If that is not achieved, students must take both 836-123 Prep for Anatomy & Physiology and 808-110 College Reading.

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 and blood. Integration of genetics to human reproduction and development are also included in this course.

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.

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.

806-190 Intro to Microbiology **2 cr**

This course is designed to give students a basic understanding of the world of microorganisms. Includes a history of microbiology, classification and taxonomy; cell structure and function; epidemiology, microbial growth and control. Explores how microorganisms impact our lives with discussion about pathogenic, nonpathogenic and opportunistic organisms. Lab activities will include use and care of the microscope, organism sampling, isolation, and staining.

806-197 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.

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.

806-207 Anatomy & Physiology 1 **4 cr**

The fundamentals of bodily function are studied at the cellular, tissue, organ, and organ system levels. Integration of physiological function and anatomical structure will be highlighted in the skeletal, integumentary, muscular, nervous, and endocrine systems. This course is the first semester of a two semester sequence designed for students who wish to transfer to a four year institution.

806-208 Anatomy & Physiology 2 **4 cr**

The second semester of a two semester sequence detailing the anatomical and physiological features of the human body. Topics covered in both a lab and lecture setting include the cardiovascular, lymphatic, immune, respiratory, digestive, urinary, and reproductive systems, as well as metabolism, fluid electrolyte, and acid-based balance. This course is the second semester of a two-semester sequence designed for students who wish to transfer to a four year institution.

806-225 Introduction to Astronomy **3 cr**

This introductory course in astronomy will cover the topics of astronomical motion, the life cycle of stars, the structure and scale of the universe, various forms of light and the electromagnetic spectrum, gravity, nuclear fusion, classification and characteristics of various astronomical objects, the Big Bang theory, historical events in the field of astronomy, constellations, the evolution of our solar system, and applying the scientific method to the cosmos.

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.

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.

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, and sound. Stresses developing good problem-solving strategies.

806-280 Principles General Physics 2 **4 cr**

Studies electricity, magnetism, geometric and physical optics, basics of modern physics topics.

806-301 Basic Microbiology **2 cr**

This two-credit course covers the structure and function of the microbial cell, pathogenic and nonpathogenic organisms, infectious processes, and the immune response. This course cannot be taken for credit if it follows successful completion of or is concurrent with Applied Microbiology (806-132).

806-321 Salon Science **2 cr**

This course includes a basic introduction to chemical concepts of matter, properties, elements, compounds, classification of matter, and chemical reactions. Oxidation, acids and bases, pH, the solution process, and how these all relate to the spa and beauty industry, the biochemistry of proteins, lipids, carbohydrates, and other organic molecules and how they specifically relate to hair, skin, and nails. The nature cells, cell reproduction, melanin, and how chemical products such as lotions, shampoos, conditioners, etc., interact with these systems will be studied. Also examined will be the physical concepts of light and color and the electromagnetic spectrum, and its effects on the human body. Also, basic electricity, electrical safety, and energy conservation within the spa/salon will be examined.

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.

806-342 Science for Tech Trades-Trans **2 cr**

Provides an introduction to basic physical principles involved in precision measurement, mechanics, hydraulics, thermodynamics, and electronics to students. Practical utilization of these principles in various technologies is analyzed with reinforcement from problem solving and laboratory exercises.

806-343 Science for Tech Trades-EPD **2 cr**

Provides an introduction to basic physical principles involved in mechanics, vector analysis, structural equilibrium, thermodynamics, and electronics. Practical utilization of these principles is analyzed with reinforcement from problem solving and laboratory exercises.

807-Physical Education

807-266 Wellness Today **2 cr**

Contemporary approach to the total wellness concept. Covers fitness and exercise, nutrition and stress management, culminating with personal planning toward lifetime wellness.

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.

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.

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.

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.

809-172 Intro to Diversity Studies **3 cr**

This is a course that draws from several disciplines to reaffirm the basic American values of justice and equality by teaching a basic vocabulary, a history of immigration and conquest, principles of

transcultural communication, legal liability and the value of aesthetic production to increase the probability of respectful encounters among people. In addition to an analysis of majority/minority relations in a multicultural context, the topics of ageism, sexism, gender differences, sexual orientation, the disabled and the American Disability Act (ADA) are explored. Ethnic relations are studied in global and comparative perspectives.

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.

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.

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.

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.

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.

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.

809-225 Ethics **3 cr**

This course engages students in a dialogue with past and present ethical thinkers who provide framework for addressing an array of contemporary moral issues pertaining to the individual and society.

809-227 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 residency, 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.

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.

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.

809-272 Race & Ethnicity in the U.S. **3 cr**

Examination of racial and ethnic minority groups in the U.S. (Native, African, Hispanic and Asian Americans) and the causes, impacts and costs of individual and institutional prejudice, discrimination and racism in American society. Course will also explore how class, gender, and sexuality intersect with race and ethnicity.

809-291 Principles of Microeconomics **3 cr**

Introduces, describes, and analyzes how markets work emphasizing what they do well and how they fail and how individuals, businesses, and governments choose to use scarce resources. Includes descriptions, analyses and critiques of various methods of government intervention in the economy. Analyzes current issues using economic concepts such as income distribution, monopoly, and efficiency. Analyzes business decisions with regard to cost analysis, output determinations; the price system, mechanisms, and determination in the products and factors of production. Discusses other

topics such as the environment, regulation vs. deregulation, international markets and trade, technology and economic development.

809-292 Principles of Macroeconomics **3 cr**

Introduction to basic economic principles with applications to current economic problems affecting the overall performance of a nation's economy. Topics include the causes and consequences of unemployment, inflation and economic growth; the role of money and banking in the economy; the role of government taxing and spending policies to correct market failure and stabilize the economy; the implications of budget deficits and the national debt; and the implications of an increasingly global economy.

809-351 Occupational Relations **2 cr**

This course is designed to provide the student with a basic understanding of the human relations skills necessary to succeed in a total quality work environment. This will include workplace trends, team-building skills, customer and co-worker relations, attitude and motivation, safety and stress management, diversity, employment law, and financial and benefits planning.

810-Speech

810-201 Fundamentals of Speech **3 cr**

Examines theory and process of communication, the role of speech in self-development, the nature of meaning, the art of persuasion, topic selection, the use of research-based evidence, and audience analysis. Includes organizing speech content, speech delivery and critique via presentation of informative and persuasive speeches and development of effective extemporaneous speaking style. Students gain self-confidence, proficiency, and poise.

Prepared Learner

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.

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.

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.

836-123 Prep for Anatomy & Physiology **2 cr**
Provides a general survey of the structure and function of the human body including chemistry, cells, tissues, organs and body systems. This course is intended for students who seek additional preparation for college level course work in anatomy and physiology.

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.

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.

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.

890-General Studies

890-115 Online Success Strategies **1 cr**
Designed for students entering an online program, this course covers strategies for study skills and using the learning management system. Students will complete assessments to assist with planning for a successful online experience.

890-205 Academic Success Strategies **1 cr**
This one credit course covers success strategies for academic, professional, and life contexts. Students will learn about the academic community, and they will learn strategies and tactics related to effective studying, time management and prioritization, and problem solving. Emphasis will be placed on service learning and community involvement.

890-298 CPL Success Strategies **1 cr**
This course focuses on how various learners can demonstrate their connections between experiential learning and classroom theory for the purpose of earning college credit for prior learning.

Chippewa Valley Technical College

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Campuses in Chippewa Falls, Eau Claire, Menomonie, Neillsville, and River Falls