Accounting (101)

10-101-101-00 Office Accounting
Students learn to apply debit/ credit theory in preparing basic journal entries. Also includes financial statement ratios, bank reconciliations, payroll, and various month end procedures. Both manual and computerized applications are emphasized. Lab, Lecture. Credits: 2.

10-101-112-00 Payroll Accounting
Teaches accounting procedures dealing with payroll, laws, and government requirements, including completion and filing of periodic reports. Lab, Lecture. Credits: 3. Prerequisite(s): 1010115100 Accounting Principles 1 (C or better) (concurrent enrollment is allowed).

10-101-113-00 Income Tax Preparation 1
Studies current state and federal tax laws. Students learn to calculate and present gross income, deductions, exemptions, taxable income, tax liability, and tax credits on appropriate tax forms. Lecture. Credits: 4.

10-101-114-00 Income Tax Preparation 2
Continuation of Income Tax Preparation I. Students learn more advanced tax concepts of individuals as well as businesses. Lecture. Credits: 3. Prerequisite(s): 1010111300 Income Tax Preparation 1 (C or better).

10-101-135-00 QuickBooks Applications
Students will apply QuickBooks to common Accounting situations. Students will also perform some financial analysis. Completion of QuickBooks Basics (10-103-155) and QuickBooks Applications (10-101-135) is equivalent to Computerized Accounting (10-101-165). Lab, Lecture. Credits: 1. Prerequisite(s): 1010315500 QuickBooks Basics (C or better).

10-101-140-00 Survey of Accounting
Students learn to apply debit/ credit theory in preparing basic journal entries. Includes financial statement ratios, bank reconciliations, payroll, and various month-end procedures. Advanced topics such as report design, audit functions, and analysis are also covered. Both manual and computerized applications are emphasized. Lab, Lecture. Credits: 3.

10-101-151-00 Accounting Principles 1
Develops an understanding of the fundamental principles of accounting with applications to service and merchandising enterprises. Lecture. Credits: 2.

10-101-152-00 Accounting Principles 2
Extends students' understanding of accounting principles, including applications to inventory, accounting systems, manufacturing, plant assets, and payroll. Lecture. Credits: 2. Prerequisite(s): 1010115100 Accounting Principles 1 (C or better).

10-101-154-00 Accounting Principles 3
Extends and applies accounting concepts and principles to corporations and the analysis of financial statements. Partnership accounting is also introduced. Lecture. Credits: 4. Prerequisite(s): 1010115200 Accounting Principles 2 (C or better).

10-101-158-00 Cost Accounting
Develops basics skills in accounting for materials, labor, and factory overhead in the manufacturing concern. Additional topics include cost-volume-profit, capital budgeting, and relevant costs for decision making. Lecture. Credits: 3. Prerequisite(s): 1010115200 Accounting Principles 2 (C or better).

10-101-162-00 Intermediate Accounting 1
Presents advanced accounting principles and applications including financial statements, receivables, cash, inventory, plant assets, and intangible assets. Lecture. Credits: 3. Prerequisite(s): 1010115400 Accounting Principles 3 (C or better).

10-101-165-00 Computerized Accounting
Covers many of the features of QuickBooks. Topics will include reports, basic journal entries, recording cash receipts/ disbursements, sales, deposits, purchase orders/ inventory, basic payroll, and bank reconciliations. Students will also perform some financial analysis. Lab, Lecture. Credits: 2.

10-101-166-00 Intermediate Accounting 2
Prepares the learner to account for revenue, debt and equity financing, leases, deferred income taxes, changes in estimates or principle, error, retirement plans, investments in securities, and to report earnings per share. Lecture. Credits: 3. Prerequisite(s): 1010116200 Intermediate Accounting 1 (C or better).

10-101-170-00 Accounting Information Systems
Prepares the learner to examine a business information system, design output reports for effective financial reporting and decision making, design input documents to gather data, document and information system of a business, create a database to organize informational needs for managing a business, design a plan for internal control of a business, and develop an information system for a business. Lecture. Credits: 3. Prerequisite(s): 1010111200 Payroll Accounting (C or better) and 1010115400 Accounting Principles 3 (C or better) and 1010116500 Computerized Accounting (C or better) and 1010311500 MS Word Beginning (C or better).

10-101-175-00 Government Accounting
Studies generally accepted accounting principles as applied to government and non-profit entities, including fund accounting procedures, budgets, and definitions. Lecture. Credits: 3. Prerequisite(s): 1010115100 Accounting Principles 1 (C or better) and 1010115200 Accounting Principles 2 (C or better).

10-101-185-00 Accounting Spreadsheet Application
Prepares the learner to use formatting for financial reports, design macros for financial reporting, use financial/ accounting functions in spreadsheets, create charts for financial analysis, use Excel database functions to query financial information, utilize spreadsheet financial analysis tools, and maintain data integrity by using internal control features. Lab, Lecture. Credits: 2. Prerequisite(s): 1010115200 Accounting Principles 2 (C or better) and 1010312800 MS Excel Advanced (C or better) and 1010111200 Payroll Accounting (C or better) and 1010311500 MS Word Beginning (C or better).

10-101-195-00 Accounting Internship
Provides opportunities to apply classroom learning to actual work in an employer-supervised environment. Occupational. Credits: 3.

Alcohol & Other Drug Abuse (520,550)

10-520-100-00 Introduction to Counseling
This course provides an overview of counseling and introduces the fundamental principles of counseling. Students will explore techniques used to assist in establishing a therapeutic relationship and learn basic theory-based counseling strategies. Students will also begin to develop self-awareness regarding transferrence issues and self-awareness, and establishing professional boundaries with clients. Lecture. Credits: 3.

10-520-105-00 Boundaries and Ethics
This course will examine topics related to ethics and boundaries specific to the field of substance abuse. Students will review and examine the ethical code of substance abuse professionals. Learners will be able to incorporate these ethical standards into a thinking cycle to promote positive solution focused decision-making skills. These skills are evaluated through performance assessment tasks such as analyzing case study scenarios, personal reflection assignments, and in-depth classroom participation. Lecture. Credits: 3. Prerequisite(s): 1052010000 Introduction to Counseling (C or better).

10-520-106-00 Methods in Social Casework
This course will prepare the learner for implementing case management techniques used in substance abuse treatment. It will incorporate the twleve core functions of a substance abuse professional and demonstrate how these core functions are implemented in practice. Learners will have the ability to complete the intake process, a bio-psychosocial assessment as well as create individual and client centered treatment plans, coordinate care by making appropriate referrals based on AODA and Mental Health guidelines, and follow up with those referrals. Lecture. Credits: 3. Prerequisite(s): 1052010000 Introduction to Counseling (C or better).

10-520-107-00 Group Counseling Methods

This course addresses varying ethical and professional boundary issues that may arise during group counseling. It also identifies the varying stages of a group process and techniques used in the group process. Students will apply group counseling techniques to specific target populations. Lecture. Credits: 3. Prerequisite(s): 1052010000 Introduction to Counseling (C or better).

10-520-110-00 Advanced Counseling Theory
In this course, students will investigate the strengths and limitations in the current trends of counseling theory. Students will also examine the history of each theory and demonstrate an understanding of the theories. Analysis of cases studies and the application of counseling theory is included. Lab, Lecture. Credits: 3. Prerequisite(s): 1052010700 Group Counseling Methods (C or better).

10-520-111-00 Behavior Assessment
In this course, students will examine signs and symptoms specific to mental health diagnoses across the lifespan as defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM). Students will also explore and differentiate diagnostic techniques and behavioral examination instruments. The course will identify historical trends specific to mental health and evaluate these trends from the perspective of nature vs. nurture. Students will assess boundaries and ethical issues commonly found in behavior assessment. Lecture. Credits: 3. Prerequisite(s): 1052010000 Introduction to Counseling (C or better).

10-550-110-00 Understanding Addiction
This course provides information based on the history, changing trends, and concepts of chemical dependence. It also assists in examining the various types of addictions within current culture(s). Attention will be focused on the impact of society on these trends and depicts the biology of psychoactive drugs. The course will also Illustrate the etiology of addiction from the varying perspectives. Lecture. Credits: 3.

10-550-115-00 Family Systems and AODA
This course examines the role of the family with regard to addiction. Additionally, the course introduces family systems theory and provides an overall foundation for understanding the dynamics of family interaction from an AODA perspective. Students will evaluate ethical and boundary issues which are common when working in substance abuse. Lecture. Credits: 2. Prerequisite(s): 1055011000 Understanding Addiction (C or better).

10-550-116-00 Psychopharmacology
This course introduces basic psychopharmacology concepts and provides an overview of human biology and its functions when introduced to medications. Students will examine current trends of medication utilized in the treatment of common mental health disorders to include current trends when treating individuals with substance abuse issues. Lecture. Credits: 3. Prerequisite(s): 1055011000 Understanding Addiction (C or better).

10-550-120-00 Introduction to the AODA Profession
This course introduces characteristics specific to the substance abuse counseling profession. Students will identify and determine personal strategies regarding self-determination and identify how they may implement professional strategies in person-centered treatment. Students will examine the eight practice dimensions used to effectively treat substance use disorders. Students will also evaluate legal and ethical issues surrounding substance abuse counseling, apply reflective practitioner methods,and utilize clinical supervision. Information will be provided regarding Wisconsin licensing for substance abuse counseling. Lecture. Credits: 1. Prerequisite(s): 1052010000 Introduction to Counseling (C or better) and 1052010600 Methods in Social Casework (C or better) and 1052010500 Boundaries and Ethics (C or better). Corequisite(s): 10-550-125-00 AODA Preceptorship I.

10-550-121-00 Assessment, Diagnosis, and Treatment of Addictive Disorders
This course focuses on addiction and its physical and psychological effects on the individual, as well as it's affects on the family and society. Students will identify interventions that may be beneficial regarding treatment of addiction, and will assess community resources that may assist with this type of treatment. Students will also review signs and symptoms specific to addictive disorders based on the DSM. Students will assess boundaries and ethical issues commonly found in assessment, diagnosis and treatment of addictive disorders. Lecture. Credits: 3. Prerequisite(s): 1080915900 Abnormal Psychology (C or better) and 1052010500 Boundaries and Ethics (C or better) and 1055011600 Psychopharmacology (C or better).

10-550-122-00 AODA Across the Lifespan
This course introduces and assists students to evaluate problematic issues found in development across the lifespan. Development areas range from birth to death and includes topics such as sexuality, sexual behaviors, child maltreatment, and AODA/ substance abuse issues. This course is designed to encourage understanding of healthy development in humans and provide a foundation of therapeutic interventions and knowledge of development across the lifespan. Students will assess ethical and boundary issues that are common when working in a helping profession. Lecture. Credits: 3. Prerequisite(s): 1055012500 AODA Preceptorship I (C or better).

10-550-125-00 AODA Preceptorship I
This course provides the opportunity for students to integrate and apply the knowledge and skills from previous AODA classes into the treatment setting. Students will examine personal and professional qualities related to AODA issues, identify areas of improvement in the professional atmosphere, examine legal and ethical issues surrounding substance abuse, practice the eight domains of a substance abuse counselor, and utilize clinical supervision. Information on obtaining licensure will be provided. Lecture, Occupational. Credits: 3. Prerequisite(s): 1055011000 Understanding Addiction (C or better) and 1052010500 Boundaries and Ethics (C or better) and 1052010600 Methods in Social Casework (C or better). Corequisite(s): 10-550-120-00 Intro to AODA Profession.

10-550-126-00 AODA Preceptorship II
This course provides additional preceptorship opportunties for students in the AODA program. It provides integration and application of knowledge and skills from previous classes of AODA in a treatment setting. Students will examine personal and professional qualities related to AODA issues, identify areas of improvement in the professional atmosphere, examine legal and ethical issues surrounding substance abuse, practice the eight domains of a substance abuse counselor, and utilize clinical supervision. Lecture, Occupational. Credits: 3. Prerequisite(s): 1055012500 AODA Preceptorship I (C or better).

Architectural Technology (480,614)

10-480-105-00 Building MEP Systems
Correlates the relationship between a building and its mechanical, electrical, and plumbing systems. Codes, space requirements and specifications will be related to the building. MEP plans and necessary calculations will be prepared for a building. Lab, Lecture. Credits: 3. Prerequisite(s): 1061412000 Architecture Residential (C or better) and 1061411100 Architecture Revit Advanced (C or better).

10-614-100-00 Architectural Principles
Establishes a background in graphic communication and the field of architecture. Creation, interpretation, and effective use of construction documents and specifications will be examined. Basic architectural sketches and drawings will be prepared. Lab, Lecture. Credits: 4. Corequisite(s): 10-614-105-00 Intro to AutoCAD.

10-614-103-00 Intro to Architecture
Introductory level course designed to expose students to the field of architecture. Students will explore the various styles of architecture and its rich history. Components of residential design along with industry terminology will be examined, as well as introducing the Wisconsin Safety and Professional Services single-family dwelling building code. Students will also investigate the concept of sustainable design. Lecture. Credits: 1.

10-614-104-00 Intro to AutoDesk Inventor
This course is designed to educate the student in basic part and assembly modeling techniques. Students will learn 3D parametric modeling techniques and concepts using AutoDesk Inventor. Students will explore topics such as, the Autodesk Inventor interface, sketching tools, part modeling tools, assembly modeling tools, the Design Assistant, creation of drawing views, working drawings and creating bills of materials. Lab, Lecture. Credits: 3.

10-614-105-00 Intro to AutoCAD
Focuses on the design, development, and construction documentation features of AutoCAD Architecture: the basic tool that the majority of students will need in their work. AutoCAD Architecture focuses on conceptual design in the sense of massing studies and space planning, as well as several advanced features for greater control over the program. Lab, Lecture. Credits: 3. Corequisite(s): 10-614-100-00 Architectural Principles.

10-614-110-00 Intro to 3D Architecture
Introduction to the parametric design software Autodesk Revit used for building information modeling. Basic design and documentation tools will be employed. A simple building design will be modeled that matches given specifications. Lab, Lecture. Credits: 3.

10-614-111-00 Architecture Revit Advanced
Expands the implementation of additional features found in the parametric design software Autodesk Revit. Advanced modeling and documentation tools will be explored. More complex building information models will be generated, edited, and documented. Lab, Lecture. Credits: 2. Prerequisite(s): 1061411000 Intro to 3D Architecture (C or better).

10-614-112-00 Building Materials
Learn to consider material properties, processes of manufacture, installation procedures, and performance. Construction methods, building systems, and products will be evaluated. Materials will be analyzed and classified based on the Construction Specifications Institute Master Format. Lecture. Credits: 2.

10-614-113-00 Engineering Principles
This is a basic engineering drawing course. It is designed to give the student the necessary skills to draw a mechanical part. Sketching, orthographic projection, auxiliary views, sectional views, and pictorial representation will be covered. Students will also be introduced to the techniques, standards and methods used to place dimensions onto a production drawing. Drafting shortcuts such as tabulated drawings, multiple detail drawings on a single sheet, and assembly drawings will be covered as well. The student will also apply the drawing revision process. Lab, Lecture. Credits: 4. Prerequisite(s): 1061410400 Intro to AutoDesk Inventor (C or better) and 1061410500 Intro to AutoCAD (C or better).

10-614-114-00 Intro to Solidworks
This course is designed to give students hands-on experience using SolidWorks three-dimensional Parametric CAD software. SolidWorks is a mechanical design software that takes advantage of the familiar Microsoft Windows graphical user interface. The students will use the software to create three-dimensional solid parts and assemblies. The students will also create orthographic projections from the solid geometry. Lab, Lecture. Credits: 3.

10-614-115-00 Construction Blueprint Reading
Students interpret blueprints for trade information, draw sketches to convey ideas, and utilize drawing software to prepare blueprints prior to building. Students appreciate the importance of accuracy and completeness as well as material selection. Students develop a set of residential building plans. Lab, Lecture. Credits: 3.

10-614-120-00 Architecture Residential
Residential house styles, building codes, and design components related to the site and structure. Conceptual designs of single family residences will be planned collaboratively. Construction drawings will be produced using Autodesk Revit and AutoCAD design software. Lab, Lecture. Credits: 4. Prerequisite(s): 1061410500 Intro to AutoCAD (C or better) and 1061410000 Architectural Principles (C or better).

10-614-121-00 Structural Residential
Highlights load distribution and coordination of structural components within residential buildings. Foundation systems, framing design, and applicable codes will be examined. Various methods will be utilized to select members for use in structural drawings. Lab, Lecture. Credits: 2. Prerequisite(s): 1061410500 Intro to AutoCAD (C or better).

10-614-125-00 Site Design
Introduces the student to the basic design issues of the urban environment. Explore building massing and site analysis as they relate to the urban context. Learn about vehicular and pedestrian circulation, zoning analysis, contour manipulation, and basic plant material selections. Places a strong emphasis on in-class presentations utilizing multimedia digital technology. Lab, Lecture. Credits: 3.

10-614-126-00 Architectural Building Science
Develops the introductory knowledge and understanding of fundamental concepts of applied statics and strength of materials as related to architectural design and building construction, including force analysis; relationships of stress, strain, and deformation; resultants and equilibrium of coplanar force systems; and analysis of trusses and frames. Lecture. Credits: 2.

10-614-127-00 Job Orientation
Occupational information prepares students to seek employment. Includes personal data sheets, job interviews, portfolio design, and letters of introduction and recommendation. Former graduates are invited to discuss needs of students before employment. Representatives of labor, management, business, and the professions are invited to discuss points of interest toward becoming an employee. Lecture. Credits: 1.

10-614-130-00 Intro to Sustainable Building
Summarizes the history, technology, and science underlying sustainable building practices. The human factor and the economics of sustainability will be discussed. Alternative energy including wind, solar, photovoltaic, geothermal, and fuel cells will be researched. Lecture. Credits: 1.

10-614-131-00 Sustainable Residential Building
Investigates basic sustainable design theory. The energy concepts of an extrinsically loaded house, natural building materials, and alternative technologies will be explored. Green building principles will be employed to design a home. Lecture. Credits: 1. Prerequisite(s): 1061413000 Intro to Sustainable Building (C or better).

10-614-135-00 Building MEP Systems
Correlates the relationship between a building and its mechanical, electrical, and plumbing systems. Codes, space requirements and specifications will be related to the building. MEP plans and necessary calculations will be prepared for a building. Lab, Lecture. Credits: 3. Prerequisite(s): 1061412000 Architecture Residential (C or better) and 1061411100 Architecture Revit Advanced (C or better).

10-614-136-00 Construction Estimating
Techniques for standard construction estimating procedures from takeoff to bid, covering the areas of excavation, concrete, wood, masonry, carpentry, alteration work, mechanical work, electrical work, and general conditions. Topics introduced include preparation of typical estimated cost recording documents and techniques as well as preparation and presentation of formal bidding document. Lecture. Credits: 2. Prerequisite(s): 1061411500 Construction Blueprint Reading (C or better).

10-614-190-00 Architectural Capstone
Offers architectural students the opportunity to incorporate content from the first three semesters while focusing on personal interests within the field of architecture. Students will begin projects as preliminary building program proposals, further refine them through the design phase, and then develop them into construction documents. Lab, Lecture. Credits: 4. Prerequisite(s): 1061411000 Intro to 3D Architecture (C or better).

Art (815)

20-815-201-00 Art Appreciation
Explores the purpose of art as it relates to history, our society, and the issues of visual perception. Lecture. Credits: 3.

20-815-205-00 Drawing
Provides a foundation in a variety of drawing techniques and concepts through the use of figure, still life, landscape, and compositional exercises. Lab. Credits: 3.

20-815-209-00 Design
Explores the organizational and perceptual qualities of design as they relate to a two-dimensional surface. Stresses design as a foundation and as visual problem solving. Lab. Credits: 3.

20-815-210-00 Life Drawing
Studies the principles, methods, and image variations of life drawing. Explores the figure both traditionally and as a contemporary form. Variations of the figure will be addressed, from expression to graphic design. Lab. Credits: 3.

20-815-213-00 Painting
Explores the principles, methods, and image variations of painting. Lab. Credits:

3.

20-815-215-00 Watercolor
Studies the principles, methods, and image variations of watercolor painting. Explores traditional and contemporary ideas, images, and techniques in watercolor. Lab. Credits: 3.

20-815-221-00 Ceramics
Explores variations in ceramic techniques and concepts through the use of thrown and hand-built forms. Lab. Credits: 3.

20-815-226-00 Survey of Western Art History I
History of art in ancient and medieval cultures, emphasizing historical, cultural, religious, economic, and political factors that influence the architecture, painting, and sculpture of Egypt, the ancient near East, Greece, Rome, Byzantium, and medieval western Europe. Lecture. Credits: 3.

20-815-227-00 Survey of Western Art History II
History of art from the 13th century to the present, emphasizing cultural, religious, economic and political factors that influence the architecture, painting, and sculpture of Europe and the United States. Lecture. Credits: 3.

20-815-230-00 Native American Art
A survey of Native American visual arts from historical to contemporary. Includes historical, cultural, and aesthetic overviews, a survey of traditional arts produced by tribes in each major geographic region, and a survey of contemporary Native American fine art. Lecture. Credits: 3.

20-815-240-00 Basic Photography
Explores basic digital photography. Develop skills to use a digital camera in manual mode, understand variables of exposure, composition, transferring, storing, and printing of digital images. Lab. Credits: 3.

20-815-265-00 Intermediate Ceramics
Investigates advanced technique, conceptual development, and contemporary issues of art. Lab. Credits: 3. Prerequisite(s): 2081522100 Ceramics (C or better).

Automotive Technology (404,602)

10-602-102-00 Electrical and Electronic Systems 1
Focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems. Learners apply Ohm's Law to basic electrical circuit diagnosis Clinical, Lecture. Credits: 2. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better).

10-602-103-00 Engine Repair 1
Focuses on developing the skills needed to diagnose, service, and repair internal combustion engines. Emphasis is placed on in-vehicle repairs, including engine cooling and lubrication systems. Lab, Lecture. Credits: 2. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better) (concurrent enrollment is allowed).

10-602-104-00 Brake Systems
Focuses on developing the skills needed to diagnose, service, and repair vehicle braking systems with an introduction to ABS. Lab, Lecture. Credits: 3. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better) (concurrent enrollment is allowed).

10-602-105-00 Introduction to Hybrid Autos
Intended for both the entry level and experienced technician, introduces basic hybrid vehicle safety and maintenance. Upon completion, learners will be able to identify a hybrid vehicle, locate and identify the major components of a hybrid vehicle, and locate, identify, and remove the safety disconnect following manufacturer and industry standards. Lab, Lecture. Credits: 2. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better) (concurrent enrollment is allowed).

10-602-107-00 Auto Service Fundamentals
Focuses on developing skills in professionalism, safety, and the use of basic hand and power tools in accordance with industry standards. Students are introduced to the automotive service industry and learn to use both comprehensive and manufacturer service information to perform basic under-hood and under-car services. Lab, Lecture. Credits: 2.

10-602-109-00 Auto Transmission Transaxle
Focuses on developing the skills needed to diagnose, service, and repair automatic transmission/ transaxles including overhaul procedures. Lab, Lecture. Credits: 4. Prerequisite(s): 1060212700 Electrical and Electronic Systems 2 (C or better).

10-602-123-00 Engine Repair 2
Focuses on developing the skills needed to diagnose, service, and repair internal combustion engines. Emphasis is placed on out-of-vehicle engine repair, including overhaul procedures. Lab, Lecture. Credits: 3. Prerequisite(s): 1060210300 Engine Repair 1 (C or better).

10-602-124-00 Steering and Suspension Systems
Focuses on developing the skills needed to diagnose, service, and repair steering and suspension systems, including wheel alignment procedures. Lab, Lecture. Credits: 3. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better).

10-602-125-00 Electrical and Electronic Systems 1
Focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems. Learners apply Ohm's Law to basic electrical circuit diagnosis. Lab, Lecture. Credits: 2. Prerequisite(s): 1060210700 Auto Service Fundamentals (C or better) (concurrent enrollment is allowed).

10-602-127-00 Electrical and Electronic Systems 2
Focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems, including batteries, starting, charging, and lighting systems, and computer control systems. Lab, Lecture. Credits: 3. Prerequisite(s): 1060212500 Electrical and Electronic Systems 1 (C or better).

10-602-128-00 Electrical and Electronic Systems 3
Focuses on developing the skills needed to diagnose, service, and repair electrical and electronic systems, including driver information, horn, wiper/ washer, power accessories, cruise control, air bag, anti-theft, and radio systems. Lab. Credits: 3. Prerequisite(s): 1060212700 Electrical and Electronic Systems 2 (C or better).

10-602-149-00 Manual Drive Train and Axles
Focuses on developing the skills needed to diagnose, service, and repair clutches, manual transmissions/ transaxle, differentials, four wheel drive/ all-wheel drive, and drive axles. Lab, Lecture. Credits: 4. Prerequisite(s): 1060212700 Electrical and Electronic Systems 2 (C or better).

10-602-195-00 Advanced Chassis Systems
Focuses on developing the skills needed to diagnose, service, and repair antilock brakes, vehicle stability enhancement, and electronic steering and suspension systems. Lab, Lecture. Credits: 2. Prerequisite(s): 1060210400 Brake Systems (C or better) and 1060212700 Electrical and Electronic Systems 2 (C or better) and 1060212400 Steering and Suspension Systems (C or better).

10-602-196-00 Climate Control Systems
Focuses on developing the skills needed to diagnose, service, and repair climate control systems, including heating, cooling, and air distribution. Upon successful completion of the Mobile Refrigerant Handling unit (EPA Section 609 of the Clean Air Act of 1990), a certificate from the Mobile Air Conditioning Society will be issued. Lab, Lecture. Credits: 3. Prerequisite(s): 1060212500 Electrical and Electronic Systems 1 (C or better).

10-602-197-00 Engine Performance 1
Focuses on developing the skills needed to diagnose, service, and repair powertrain control and ignition systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability. Lab, Lecture. Credits: 3. Prerequisite(s): 1060212700 Electrical and Electronic Systems 2 (C or better) and 1060210300 Engine Repair 1 (C or better).

10-602-198-00 Engine Performance 2
Focuses on developing the skills needed to diagnose, service, and repair fuel and emission control systems. Emphasis is placed on diagnostic procedures and the problem-solving techniques associated with automotive engine performance and drivability. Lab, Lecture. Credits: 4. Prerequisite(s): 1060219700 Engine Performance 1 (C or better).

10-602-199-00 Capstone for Automotive
Provides an opportunity for students to demonstrate workplace employability and employment seeking skills in the classroom, at the automotive workplace, and to develop a continuing education plan that will advance their career goals. Lecture, Occupational. Credits: 2.

32-404-311-00 Automotive Service Orientation
Orients students to the automotive service industry. In a group setting, students will learn using collaborative methods to research service information attainment, vehicle design, and operation. Students will prepare to independently perform engine, vehicle chassis, and drive train inspections and maintenance. Lab, Lecture. Credits: 3.

32-404-312-00 Engine Systems Repair I
Studies the theory of automotive internal combustion engine and the integrated and supporting systems of engine operation. Emphasis will be upon engine systems principles of operation, design, and construction as foundation for the maintenance, diagnosis, and repair of automotive engines. Lab, Lecture. Credits: 2.

32-404-323-00 Automotive Steering and Suspension I
Students will develop, apply, and evaluate service principles relating to steering and suspension systems. Students will also develop basic skills in steering problems related to the service of various steering and suspension systems, including springs and shock absorbers, struts, steering sections, power steering units, steering linkage, pre-alignment inspection, and wheel balance. Lab, Lecture. Credits: 3. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240432900 Chassis Electrical I (C or better).

32-404-324-00 Automotive Brake Systems I
A study of design, construction, operation, and service of vehicle braking systems. Emphasis is placed on disc and drum applications, power brake units, the machining of brake drum and rotors, hydraulic systems and components, along with the maintenance and repair of the parking brake system. Lab, Lecture. Credits: 3. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) (concurrent enrollment is allowed).

32-404-328-00 Engine Performance I
Develops the basic technical skills required to function as an engine control systems technician. Ignition, fuel delivery, emission, and computer control systems, principles of operation, and repair for late model vehicles will be studied. Lab, Lecture. Credits: 4. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240432900 Chassis Electrical I (C or better).

32-404-329-00 Chassis Electrical I
Students will develop, apply, and evaluate service principles relating to starting, cranking, charging, and several basic chassis electrical accessory systems. Students will also apply DC electrical circuit fundamentals to the related diagnosis, testing, and service procedures. Lab, Lecture. Credits: 4. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) (concurrent enrollment is allowed).

32-404-332-00 Auto Engine Systems II
Prepares the student with the basic systems knowledge to service gasoline engine internal components and systems, including head reconditioning, block overhaul, and major unit removal and installation. Lab, Lecture. Credits: 3.

32-404-335-00 Automotive Automatic Transmissions
Studies vehicle automatic transmission and transaxle theory of operation, maintenance, component and system diagnosis, and service and repair. Emphasis will be placed upon the basic theory of operation and diagnosis of the automatic transmission and transaxle and its related components, repair and replacement procedures, and the integration of computer-based systems. Lab, Lecture. Credits: 4. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240434900 Chassis Electrical II (C or better).

32-404-336-00 Manual Drivetrains
Prepares students to maintain, diagnose, service, and repair manual drive trains on automobiles and light trucks. Systems studied are components of front wheel, rear wheel, four-wheel and all-wheel drive automobiles, and light trucks. Lab, Lecture. Credits: 4.

32-404-337-00 Automotive Heating and Air Conditioning
Develops basic skills required to inspect, discharge, evacuate and charge, air conditioning systems while employing recovery and recycling and charging equipment in accordance with all state of Wisconsin and federal regulations, specifically applying mobile refrigerant systems. Lab, Lecture. Credits: 3. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240432900 Chassis Electrical I (C or better).

32-404-344-00 Steering Suspension and Brakes II
Enables the learner to develop the advanced knowledge, skills, and abilities to diagnose, service, and repair power steering systems, power boost brake systems, ABS systems, and to conduct four-wheel alignment. Lab, Lecture. Credits: 3. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240432900 Chassis Electrical I (C or better) and 3240432300 Automotive Steering and Suspension I (C or better) (concurrent enrollment is allowed).

32-404-348-00 Engine Performance II
Prepares the student to diagnose and repair gasoline engine performance, fuel control, ignition, emission, and integrated drive train systems. The student will apply advanced diagnostic and repair concepts to drivability-related symptoms. Lab, Lecture. Credits: 5. Prerequisite(s): 3240432800 Engine Performance I (C or better).

32-404-349-00 Chassis Electrical II
Develops abilities to diagnose, service, and repair chassis electrical systems as found on automobiles and light trucks. Special focus will be upon complex or modularized circuitry, such as instrumentation, those with IC integrated accessory systems, multiplexing, circuits with varied loads and switching, and those integrated with multiple systems. Lab, Lecture. Credits: 3. Prerequisite(s): 3240431100 Automotive Service Orientation (C or better) and 3240432900 Chassis Electrical I (C or better).

32-404-350-00 Intro Hybrid Auto Safety and Maintenance
Intended for both entry level and experienced technicians, introduces the learner to basic hybrid vehicle safety and maintenance. Upon completion, the learner will be able to identify a hybrid vehicle, locate and identify the major components of a hybrid vehicle, and be able to locate, identify, and remove the safety disconnect following manufacturer and industry standards. Lab, Lecture. Credits: 2.

32-404-391-00 Automotive Workplace Capstone
Provides an opportunity for students to demonstrate workplace employability and employment seeking skills in the classroom, at the automotive workplace, and to develop a continuing education plan that will advance their career goals. Lecture, Occupational. Credits: 2.

Building Trades - Carpentry (475)

31-475-302-00 Carpentry II
A continuation of Carpentry I. Topics include wall and roof systems, exterior wall components, soffit construction, insulation techniques, and applied building codes. Students evaluate the impact of wall and roof systems materials, designs, and construction methods upon energy efficiency. Theory and practice are applied on-site through the construction of a residential structure. Lab, Lecture. Credits: 5. Prerequisite(s): 3147530100 Carpentry I (C or better).

31-475-303-00 Construction Safety
Students apply approved construction site safety and health procedures, the use of personal protection gear, and the safe use of hand and power tools. Students are required to purchase a prescribed set of carpentry tools with an approximate value of $800. Lab. Credits: 1.

31-475-304-00 Carpentry III
A continuation of Carpentry II. Topics include insulation, ventilation, building envelope sealing, rafter framing, trusses, special beams, and stairs. Student frame-in windows, doors, archways, bookcases, and apply other finishing considerations. Students evaluate the impact of window, door, roofing system design, and materials upon energy efficiency and environmentally sound practices. Lab, Lecture. Credits: 5. Prerequisite(s): 3147530300 Construction Safety (C or better).

31-475-305-00 Carpentry IV

A continuation of Carpentry III. Students finish the interior of a building project, hanging windows and doors, building cabinets, hanging and taping drywall, cutting and applying trim, and installing stairs and banisters. Students evaluate the impact of structural venting, sealing, and insulating upon efficiency, indoor air quality, and long-range sustainability. Lab, Lecture. Credits: 5. Prerequisite(s): 3147530400 Carpentry III (C or better).

31-475-308-00 Carpentry Blueprint Reading
Students interpret blueprints for trade information, drawing sketches to convey ideas, and utilize drawing software to prepare blueprints prior to building. Students appreciate the importance of accuracy and completeness as well as material selection. Students develop a set of residential building plans. Lab, Lecture. Credits: 3.

31-475-310-00 Construction Estimating
Students specify materials, labor, and costs associated with a construction project, considering weather, availability of materials, special tools, and equipment that will be necessary. Students evaluate the economic impact of materials selection and disposal upon a structure's energy efficiency. Students coordinate work with other trades to maximize efficiency. Lab, Lecture. Credits: 2.

Business (102)

10-102-106-00 Business Orientation
Introduces students to the topics of business and allows them to experience the expectations and rigor of the program. Students also participate in self-assessments to provide feedback and self-awareness of the relationship between interest and aptitude for the program. Lecture. Credits: 1.

10-102-106-C01 Business Orientation
Business Orientation Introduces students to the topics of business and allows them to experience the expectations and rigor of the program. Students also participate in self-assessments to provide feedback and self-awareness of the relationship between interest and aptitude for the program. Lecture. Credits: 1.

10-102-107-00 Managing for Quality
Student applies the skills and tools necessary to implement and maintain a continuous improvement environment. Each student will demonstrate the application of a personal philosophy of quality, identify stakeholder relationships, identify ways to meet/ exceed customer expectations, apply a systems-focused approach, use quality models and tools, manage a quality improvement project, and measure effectiveness of continuous improvement activities. Lecture. Credits: 3.

10-102-110-00 Business Statistics
Applies statistical methods to address management-related questions and make evidence- based decisions. Students use descriptive and inferential statistics, and perform statistical analyses with nominal, ordinal and interval level data. Analyses include measures of central tendency and dispersion, probability, analysis of variance, and contingency tables. Lecture. Credits: 3.

10-102-115-00 Human Resource Management
Examines overall functions of human resource management. Teaches specific skills in forecasting, recruitment, selection, appraisal, job design, compensation and benefits management, training, labor relations, employee rights, and Equal Employment Opportunity laws. Lecture. Credits: 3.

10-102-120-00 Business Law
Examines the law and the ways it can impact business operations, including the framework of the court system, contracts, torts, criminal law, business ethics, forms of business organizations, real and personal property. Lecture. Credits: 3.

10-102-130-00 Principles of Management
Examines the overall functions of management and organizational structure and dynamics. This class will provide lessons in specific skills in cross-cultural competence, planning, quality initiatives, project management, human resource management, leadership, teamwork, and decision making. Lecture. Credits: 3.

10-102-140-00 Fundamentals of Tribal Management
Covers leadership, motivation, organizational dynamics, personnel, and budgeting within a Native American community and sovereign government context. Includes federal Indian law and policy, community and economic development, and culturally specific management practices. Lecture. Credits: 3.

10-102-141-00 Advanced Tribal Management
Studies the governance and administration of contemporary Native Nations. It examines legislative, executive and judicial structures and functions, as they relate to nation rebuilding. Students study a Nation's major executive/ administrative functions recognizing that effective administration is a key to self-determination and sovereignty. The course places contemporary challenges in a historical context related to Federal Indian policy and traditional practices. Systems or functions examined include constitutions, courts, and economic development, and may include enrollment, community development, natural resources, cultural preservation, education, protective services, and health and human services. Students pursue an area of special interest. Lecture. Credits: 3. Prerequisite(s): 1010214000 Fundamentals of Tribal Management (C or better).

10-102-142-00 Tribal Supervisory Management
Develops an understanding of management theories and practical techniques for first-line supervisors. Teaches personal, interpersonal, technical, and administrative skills required of successful supervisors. Applies general supervision issues to a Native American tribal environment. Lecture. Credits: 3.

10-102-143-00 Managing Non Profit Organizations
Covers the day-to-day development and management of nonprofit organizations. Includes NPO status and structure, financial resource development, public relations, risk management, program planning and evaluation, board development, volunteer management, and financial management. Lecture. Credits: 3.

10-102-145-00 Business Finance and Budgeting
Introductory course in business finance with emphasis on improving business financial performance. Learners will apply the skills necessary to achieve an understanding of the fiscal/ monetary aspects of business. Special attention is given to ratio and financial statement analysis, cash budgeting, working capital management, capital budgeting, and the risk-return relationship in business. Lecture. Credits: 3.

10-102-152-00 Business Marketing
Designed to provide an overview of business marketing as an activity and process for creating, capturing, communicating, delivering, and exchanging offerings that have value for customers and stakeholders. This is developed through an understanding product, pricing, promotion, and distribution. Lecture. Credits: 3.

10-102-160-00 Supervisory Management
Teaches theories and skills for first-line supervisors. Develops skills in conflict management, coaching, managing work groups, safety, and grievances. Helps students transition from line worker to supervisor, manage time, identify management styles, and develop self-awareness. Lecture. Credits: 3.

10-102-163-00 Entrepreneurship
Students apply the key elements of successful entrepreneurship to business scenarios. Students create a business plan for a new business. Lecture. Credits: 3.

10-102-163-01 Tribal Entrepreneurship
Tribal Entrepreneurship students apply the key elements of successful entrepreneurship to business scenarios. Students create a business plan for a new business. Lecture. Credits: 3.

10-102-190-00 Business Management Internship Capstone
Internship applies previously learned knowledge and skills in a real-work setting. Capstone provides students opportunity to expand management-specific expertise through additional study, research or other experience. Serves as culminating course for the Business Management program. Occupational. Credits: 3.

10-102-190-01 Business Management Internship Capstone
Applies previously learned skills in a real-work setting. Serves as a culminating course for the Business Management program. Occupational. Credits: 2.

10-102-191-00 Service Learning for Business
A credit-bearing, education experience in which students plan and participate in an organized service activity that meets identified community needs and then

reflect on the service activity in such a way as to gain a broader appreciation of the discipline and an enhanced sense of civic responsibility. Lecture. Credits: 1. Prerequisite(s): 1010213000 Principles of Management (C or better) and 1010215200 Business Marketing (C or better).

Carpentry (410,475)

31-475-301-00 Carpentry I
An introduction to residential construction practices. Fundamentals of planning, layout, foundations, and rough framing are taught in theory and through the construction of a residential structure. An emphasis is placed upon sustainable building practices. Building codes are covered and applied in practice on the building site. Lab, Lecture. Credits: 5. Prerequisite(s): 3147530300 Construction Safety (C or better).

50-410-541-00 Carpentry Apprenticeship 1
Apprentices will be introduced to safe working practices which include the identification, use, and maintenance of commonly used hand tools, portable and stationary power tools, personal protective equipment, and ladders and scaffolding. Course topics also include basic applied math, communication skills, along with an introduction to construction drawings and print reading. Safe material handling will also be examined in this course. Lecture. Credits: 2.

50-410-542-00 Carpentry Apprenticeship 2
Apprentices will continue to further examine construction drawings along with plan specifications. The use of transits and levels, along with an introduction to building layout will be discussed. Course topics will also include the various types of building materials, fasteners, and adhesives used in residential construction. Apprentices will learn trade practices involving residential floor systems, as well as code- related topics. Various floor framing components will be examined, along with floor system layout. Lecture. Credits: 2.

50-410-543-00 Carpentry Apprenticeship 3
Apprentices will learn about wall construction techniques used in residential construction. Various wall construction methods and components will be examined during this course. The course will also discuss and explore roof systems and framing requirements involved. Various roof styles, along with trusses, rafters, ceiling joist, intersecting valleys, eaves and rakes, and other cornice details will be examined. Application of print reading skills will be utilized, along with code-related topics. Lecture. Credits: 2.

50-410-544-00 Carpentry Apprenticeship 4
Apprentices will explore the various thermal and moisture protection materials and industry installation techniques. Insulation materials and residential waterproofing products will be identified and include discussion and best practices for job site installation. The course will also include examining and understanding building science in residential construction. The physics of air movement and interaction of people, residences, and the environment will be discussed, along with framing and air sealing details. Lecture. Credits: 2.

50-410-545-00 Carpentry Apprenticeship 5
Apprentices will explore exterior finishing systems in this course. Exterior finishing systems will include roofing, soffit and fascia, window and door installation, masonry, and exterior siding as well as other various exterior cladding systems used in residential construction. Exterior finish building materials will be examined, along with code-related topics. Lecture. Credits: 2.

50-410-546-00 Carpentry Apprenticeship 6
Apprentices will examine stair design, layout, and building. This course will provide an opportunity to identify stair components and the relationship of occupant safety based on codes and standards. Exterior deck construction will also be discussed, along with the various building materials used and industry installation techniques. Application of print reading skills will be utilized, along with code-related topics. Lecture. Credits: 2.

50-410-547-00 Carpentry Apprenticeship 7
Apprentices will examine interior finish systems. This course will cover drywall installation and finish techniques, interior door installation, window and door trim, crown molding, baseboard, and paneling installation. Acoustical ceiling basics will be explored, along with various interior flooring materials. Cabinetry and countertop installation will also be discussed. Lecture. Credits: 2.

50-410-548-00 Carpentry Apprenticeship 8
This course is intended as a final review and comprehensive assessment of the apprentices experience over the past instructional courses. This course will include a review of construction blueprint reading, applied math and communication skills, building codes, and any other topics covered throughout the program. A discussion of current or emerging industry trends will be included, as well as emerging industry equipment and technologies. Apprentices will also have the opportunity to participate in a capstone hands-on project or industry-related activities with other classmates. Lecture. Credits: 1.

Computer Aided Design (606)

10-606-119-00 CAD Introduction
Teaches students how to create, store/ retrieve, and produce a hardcopy of a computer-aided design two-dimensional drawing using AutoCAD software. Lab, Lecture. Credits: 2.

10-606-120-00 CAD Level I
Provides further knowledge of AutoCAD's two-dimensional drawing/ editing features and some of its three-dimensional features. Lab, Lecture. Credits: 2. Prerequisite(s): 1060611900 CAD Introduction (C or better) (concurrent enrollment is allowed).

Computer Software (103)

10-103-101-00 Computer Literacy Microsoft Windows
A beginning level course for individuals who have little or no computer experience. The student will learn how to perform basic computer operations that will include creating, saving, and managing files and folders in a Windows environment, as well as gain knowledge of web browser basics. Lecture. Credits: 1.

10-103-107-00 MS Office Fundamentals
Students are introduced to the basic functions of MS Word, MS Excel and MS PowerPoint in the business setting. Students will apply word processing features to create business documents, use spreadsheet functions for business applications, and develop skills in using graphics, layout, and slideshow features to produce professional-looking presentations. Lab, Lecture. Credits: 2.

10-103-115-00 MS Word Beginning
Provides practice in using basic word processing functions and features of MS Word. Lab, Lecture. Credits: 1.

10-103-115-C01 MS Word Beginning
Students will apply word processing features to create business documents. Lab, Lecture. Credits: 1.

10-103-117-00 MS Word Intermediate
Provides practice in using additional features of MS Word including tables, charts, form letters, mailing labels, and newsletters. Lab, Lecture. Credits: 1. Prerequisite(s): 1010311500 MS Word Beginning (C or better).

10-103-118-00 MS Word Advanced
Develops skills using advanced features of MS Word that include creating a table of contents, an online form, and working with macros. Lab, Lecture. Credits: 1. Prerequisite(s): 1010311700 MS Word Intermediate (C or better) or 1010613100 Integrated Computer Applications Int (C or better).

10-103-119-00 Desktop Publishing
Covers design and production of professional quality documents that combine text, graphics, and illustrations. Lab, Lecture. Credits: 2.

10-103-126-00 MS Excel Beginning
Develops skills in using basic spreadsheet functions of MS Excel for business users. Lab, Lecture. Credits: 1.

10-103-126-C01 MS Excel Beginning
Students will apply spreadsheet functions to create business documents. Lab, Lecture. Credits: 1.

10-103-127-00 MS Excel Intermediate
Develops skills in using additional spreadsheet features including multiple worksheets, 3-D references, macro basics, charts, and databases. Lab, Lecture. Credits: 1. Prerequisite(s): 1010312600 MS Excel Beginning (C or better) (concurrent enrollment is allowed).

10-103-128-00 MS Excel Advanced
Develops skills in using advanced features of Excel including importing data, problem solving, creating PivotCharts and PivotTables, and automating data entry. Lab, Lecture. Credits: 1. Prerequisite(s): 1010312700 MS Excel Intermediate (C or better) (concurrent enrollment is allowed).

10-103-135-00 MS Access Beginning
Develops skills in using basic features to design a database, manipulate and query records, and prepare reports and labels. Lab, Lecture. Credits: 1.

10-103-136-00 MS Access Intermediate
Extends database skills to include custom reports, advanced form techniques, macros, command buttons, and switchboards. Lab, Lecture. Credits: 1. Prerequisite(s): 1010313500 MS Access Beginning (C or better).

10-103-137-00 MS Access Advanced
Develops skills using advanced features of MS Access that include working with advanced report and form techniques, and administering a database system. Lab, Lecture. Credits: 1. Prerequisite(s): 1010313600 MS Access Intermediate (C or better).

10-103-141-00 MS Powerpoint Beginning
Develops skills in using basic graphics, layout, and slide show features to produce professional-looking presentations. Lab, Lecture. Credits: 1.

10-103-142-00 MS Powerpoint Intermediate
Enhances graphic presentation skills through practice in customizing presentations, creating and working with objects, and embedding features. Lab, Lecture. Credits: 1. Prerequisite(s): 1010314100 MS Powerpoint Beginning (C or better).

10-103-143-00 MS Powerpoint Advanced
Develops skills using advanced features of MS PowerPoint that include working with multimedia and animated shapes. Lab, Lecture. Credits: 1. Prerequisite(s): 1010314200 MS Powerpoint Intermediate (C or better).

10-103-149-00 MS Visio
Students are introduced to MS Visio. Students will use MS Visio to create flowcharts, network diagrams, floor plans, and other related documents. MS Visio is a tool that is used to create both physical and logical diagrams. Lab, Lecture. Credits: 1.

10-103-149-C01 MS Visio
In this course you will learn how to use MS Visio to create flowcharts, network diagrams, floor plans, organizational charts. and cross-functional flowcharts that are used in business today. Lab, Lecture. Credits: 1.

10-103-155-00 QuickBooks Basics
Covers basic features of QuickBooks. Topics will include an introduction to QuickBooks, reports, basic journal entries, recording cash receipts/ disbursements, sales, deposits, basic payroll, and bank reconciliations. Students planning to complete Survey of Accounting, Office Accounting, or Computerized Accounting should not enroll in QuickBooks Basics. Lab, Lecture. Credits: 1.

10-103-165-00 Web Page Development
Introduces and enhance skills in web page development using Dreamweaver. Topics include the basic of creating, modifying, and managing multimedia-rich web pages. Lab, Lecture. Credits: 2.

10-103-169-00 MS Publisher Beginning
Enables students to design and produce professional-quality MS Publisher documents that combine text, graphics, and illustrations suitable for print and digital media publication. Students learn basic MS Publisher functions, design principles, and applicable copyright law. Lab, Lecture. Credits: 1.

Cosmetology (502)

10-502-186-00 Instructional Planning and Design
Prepares educators to employ the performance-based instructional design process. Participants designate performance expectations, design learning plans, develop assessment tasks, and produce a syllabus. Participants may choose to apply the process to classroom, lab, onsite industrial, online, or other distance learning environments. [This course meets WTCS Certification Requirement #50 - Course/ Curriculum Construction.] Lecture. Credits: 2.

10-502-187-00 Teaching Methods
Prepares educators to create a learning environment that supports learners and results in the achievement of designated learning outcomes. Emphasizes teaching and learning techniques that promote active learning, support learners with a variety of learning preferences and needs, and generate continuous improvement in teaching and learning. [This course meets WTCS Certification Requirement #52-Teaching Methods] Lecture. Credits: 2.

10-502-188-00 Educational Evaluation
Prepares educators to design and implement the performance assessment component of a course. Places emphasis on the development of criterion-referenced performance assessment strategies, the application of varied assessment formats, and the use of assessment as a tool for improving teaching and learning. Participants will design performance assessment strategies for a course or other learning experience, create varied assessment tools, and summarize their assessment philosophy. [This course meets WTCS Certification Requirement #54 - Educational Evaluation] Lecture. Credits: 2.

31-502-304-00 Cosmetology Introduction
Provides a look at the opportunities available in the Cosmetology Industry; including product use, retailing and identifying which product to use. This course introduces the fundamental theory and practices of the cosmetology profession with an emphasis on professional practices and safety and infection control. Topics include state rules and regulations, the state regulatory agency, image, bacteriology, decontamination and infection control, safety and infection control. Lecture. Credits: 1.

31-502-306-00 Basic Cut and Style
Students will learn to recognize how to care for the hair and scalp, draping, shampooing, and scalp massage. Through a scientific approach students will design haircuts and styles, utilizing art forms, analysis of design components and knowledge of face profiles. Students will apply various haircutting and styling techniques; utilizing multiple tools. Lab, Lecture. Credits: 2.

31-502-307-00 Basic Texture and Color
This course includes the basics of safe and sanitary permanent waving, chemical hair relaxing and hair color basics which include the law of color, the color wheel, and the theory behind these concepts. The history and product knowledge of these chemical services will be studied along with the differences between each chemical. Students will mix and apply chemicals while developing skills and building client consultation techniques. Lab, Lecture. Credits: 4.

31-502-308-00 Cosmetology Instructor Orientation
Students will be observing instructors in the classroom, lab, and clinic settings. Students will prepare lesson plans for theory and practical lessons, teach lessons under the supervision of licensed instructors, and learn the practical skills of supervising students in a clinical setting. Explores the goals of the instructor program and reviews the curriculum. Students will utilize the Wisconsin Department of Safety and Professional Services for instructor policies and procedures, discussing safety and first aid. Students will discuss student advising, recording keeping, and the interpersonal skills necessary for success in the Barber or Cosmetology profession. Lab, Lecture. Credits: 2.

31-502-310-00 Men's Cut and Shave
Students analyze hair growth patterns of the hairline, side burns, and facial hair for the male client. Students complete men's haircuts along with beard and mustache trims, face shaving and trimming of hair on the ears and brows. Lab, Lecture. Credits: 2.

31-502-316-00 Nail Care
Focuses on sanitation, tool safety, and proper procedures for manicure/ pedicure services and the art and technology of nail contouring. Students learn to shape natural nails and the correct use of professional nail care products. Artificial nail enhancement techniques are practiced to show students increased earning when working in a salon. Lab, Lecture. Credits: 1.

31-502-317-00 Skin Care
Students will learn the different types of skin. Structure and functions of the skin will be studied and basic facial techniques applied. They will perform basic skin

waxing techniques, removal of superfl uous hair, makeup application, false eyelash application, and skin analysis. Lab, Lecture. Credits: 3.

31-502-318-00 Salon Services 2
Students develop speed and advanced proficiency in all areas of chemical services, hair cutting, barbering techniques, color, nail technology, and skin care with increased attention to individual client needs. Working together as a team and cooperation with other students is assessed along with professional attitude, ethics, and conduct. Clinical. Credits: 4. Prerequisite(s): 3150237800 Salon Services 1 (C or better) (concurrent enrollment is allowed).

31-502-320-00 Salon Science
This course covers several general science topics integral to the field of cosmetology: bacteriology, infection control, salon ecology, introduction to electrology, the basics of electricity, chemistry, and anatomy and physiology. Lecture. Credits: 2.

31-502-321-00 Advanced Cut and Style
Builds on Hair Sculpting to perform full service haircuts and styles. Each design will include all the aspects of full services from greeting, consultation, delivery and completion. Trends in haircutting and styling will be covered. Composition and construction of a variety of wigs and hairpieces to make effective choices for salon guests. Students will employ design principles of balance, contrast, repetition and asymmetry to create long hair designs for wedding, prom and formal events. Lab, Lecture. Credits: 2. Prerequisite(s): 3150230600 Basic Cut and Style (C or better) (concurrent enrollment is allowed).

31-502-329-00 Advanced Texture and Color
Students build on permanent waving techniques, color techniques, soft curl reformation and keratin treatments. Problem solve aspects of color correction and challenges in chemical texturing and hair color services. Observe and research trends and techniques in color and texture. Create a marketable look using theoretical knowledge, application techniques in chemical texturizing and hair color. Lab, Lecture. Credits: 4. Prerequisite(s): 3150230700 Basic Texture and Color (C or better) (concurrent enrollment is allowed).

31-502-330-00 Salon Services 3
In this final salon services course the students are given a variety of required services to complete that show they are competent in this service and can complete this task with additional speed and attention to detail. The student is graded on salon management skills using computerized appointment booking and attention to closing out the cash register to balance the day's receipts. Daily running of a competent salon including cleanliness, sanitation, safety, inventory, and retail control, and organization are stressed to prepare the student as a competent employee. Clinical. Credits: 4. Prerequisite(s): 3150231800 Salon Services 2 (C or better) and 3150231700 Skin Care (C or better).

31-502-335-00 State Board Preparation
Examines Wisconsin cosmetology state statutes and administrative code. The state statutes are studied in relation to the corresponding rules involved with each topic. Review all state board required procedures. Practical and written assessment of all state board subjects. Prepare and submit materials for state board exams. Lab, Lecture. Credits: 3.

31-502-369-00 Cosmetology Industry
Build business principles necessary to plan and operate a business establishment. Employer-employee relationships, basic recordkeeping and time management skills are taught. This course prepares students for the salon by spending time with salon mentors to evaluate future career plans. Lab, Lecture. Credits: 1.

31-502-378-00 Salon Services 1
This course promotes beginning level concentrated student development of skills by promoting student development of skills and proficiencies in delivering a wide range of client-related services. Emphasis is placed on client consultations, proper business practices, professional attitudes, and refining techniques that will ensure entry-level preparedness for the Wisconsin Licensing exam. Students complete this course by working in an on-campus beauty salon environment. Clinical. Credits: 4. Prerequisite(s): 3150232900 Advanced Texture and Color (C or better).

Criminal Justice (504)

10-504-100-00 Introduction to Corrections
This class will provide a foundation to students that will enter the corrections profession. The course will cover Ethics and Ethical Decision Making, Professional Communication Skills, Report Preparation, and Correctional Law. The course is aligned with the State of Wisconsin DOJ Jail Academy requirements. Lecture. Credits: 3.

10-504-104-00 Criminal Justice Program Orientation
Covers the following topics: program overview, related careers, college services and support services available, library resources, introduction to academic research techniques, and introduction to Blackboard. The course will help students increase critical and creative thinking skills and better prepare them for program and overall college success. Lecture. Credits: 1.

10-504-109-00 Courts and Jurisdiction
Deals with the adversary system of criminal justice, including the various steps which precede the actual trial. Principles of constitutional, federal, state, and civil laws are analyzed as they affect law enforcement. Lecture. Credits: 3.

10-504-129-00 Interviewing Techniques
Describes the purposes and mechanics of conducting proper interviews and interrogations, as well as securing and recording confessions. Special emphasis is given to psychological and legal aspects of various interviewing techniques. Lecture. Credits: 3. 1050414500 Rules of Evidence (C or better)

10-504-133-00 Delinquency and Deviant Behavior
Discusses current trends in juvenile misconduct and the relationship between society and the criminal justice system. Lecture. Credits: 3.

10-504-140-00 Computer Utilization for Criminal Justice
Introduces the learner to the use of computer and internet technologies available to the criminal justice practitioner. Students will learn the fundamentals of computer usage, internet research methods and resources, fundamental investigative techniques of cyber-crimes, and the specialized use of criminal justice software for crime scene reconstruction and suspect facial reconstruction. Lecture. Credits: 3.

10-504-145-00 Rules of Evidence
Describes the different types and degrees of evidence and stresses the importance of how evidence is developed. Lecture. Credits: 2.

10-504-150-00 Criminal Justice Practical Applications
This class will enable associate degree students to successfully navigate the practical application of the knowledge and skills learned in the program. The course will be focused on the competencies based on the current Wisconsin DOJ training standards. It will prepare the student to successfully complete the practical skills portions of the AAS and 720 hour recruit program. Lab, Lecture. Credits: 1. Prerequisite(s): 1050470800 Physical Fitness (C or better).

10-504-195-00 Criminal Justice Practicum
Involves a hands-on experience, which focuses on a specific area of the criminal justice system. This is primarily a field study course. The non-classroom learning environment will assist the student in developing self-directed learning skills. Also enables the students to increase their knowledge and their understanding of the complexities of the criminal justice system. In addition to gaining experience, the students will develop relationships with practitioners who can help them set their future career goals and possibly assist them in procuring future employment. Occupational. Credits: 3.

10-504-195-01 Criminal Justice Practicum
UNIT A Occupational. Credits: 1.

10-504-195-02 Criminal Justice Practicum
UNIT B Occupational. Credits: 1.

10-504-195-03 Criminal Justice Practicum
UNIT C Occupational. Credits: 1.

10-504-700-00 Introduction to Criminal Justice
In this course, students will focus on the following Phase I key topics as addressed in the WI Department of Justice Academy 720 curriculum framework.

Topics include: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lecture. Credits: 3. Corequisite(s): 10-504-701-00 Basic Patrol Response,10-504-902-00 Criminal Law.

10-504-700-01 Introduction to Criminal Justice
In this course, students will focus on the following Phase I key topics as addressed in the WI Department of Justice Academy 720 curriculum framework. Topics include: Academy Orientation, Fundamentals of Criminal Justice, Ethics, Cultural Competency, Agency Policy, and Professional Communication. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lecture. Credits: 2.

10-504-701-00 Basic Patrol Response
Through classroom lecture, on-campus lab and WI Department of Justice integration activities students will learn and apply skills addressed in the following Department of Justice 720 Academy Phase I topics: Critical Thinking and Decision-Making, Basic Response (RESPOND), Radio Procedures, TraCS, Traffic Law Enforcement, and First Aid/ CPR/ AED. Lab, Lecture. Credits: 3. Corequisite(s): 10-504-700-00 Introduction to Criminal Justice,10-504-703-00 Basic Investigations.

10-504-702-00 Basic Tactics
In this course, students will learn and apply the skills from Phase I topics outlined in the WI Department of Justice 720 Academy. Topics include: Fundamentals of Firearms, DAAT, Vehicle Contacts, Officer Wellness, and Physical Fitness. Student learning will occur through lecture, on-campus lab activities, independent physical fitness activities, and the Department of Justice 720 Academy Integration Exercises Lab, Lecture. Credits: 3. Corequisite(s): 10-504-705-00 Advanced Tactics.

10-504-702-01 Basic Tactics A
In this course, students will learn and apply the skills from Phase I topics outlined in the WI Department of Justice 720 Academy. Topics include: Fundamentals of Firearms, DAAT, Vehicle Contacts and Officer Wellness. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises Lab. Lab, Lecture. Credits: 2.

10-504-703-00 Basic Investigations
In this course, students will learn and apply the skills from the Phase I topics outlined in the WI Department of Justice 720 Academy. Topics include: Constitutional Law, Crimes, Juvenile Law, Interviews, Report Writing, and Evidence. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lab, Lecture. Credits: 3. Corequisite(s): 10-504-701-00 Basic Patrol Response.

10-504-704-00 Intermediate Patrol Response
In this course, students will learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Professional Communication Skills, Incident Command System and NIMS, Hazardous Materials and Weapons of Mass Destruction (WMD), Tactical Response, Crisis Management, and TECC. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lab, Lecture. Credits: 3. Prerequisite(s): 1050470100 Basic Patrol Response (C or better). Corequisite(s): 10-504-709-00 Traffic Response.

10-504-705-00 Advanced Tactics
In this course, students will learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Physical Fitness, Defense and Arrest Tactics (DAAT), and Firearms II. Student learning will occur through lecture, on-campus lab activities, and independent physical exercise. Lab, Lecture. Credits: 4. Corequisite(s): 10-504-702-00 Basic Tactics,10-504-706-00 Emergency Vehicle Response.

10-504-706-00 Emergency Vehicle Response
In this course, students will learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Emergency Vehicle Operation and Control (EVOC) and Vehicle Contacts II. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lab, Lecture. Credits: 2. Corequisite(s): 10-504-705-00 Advanced Tactics,10-504-708-00 Physical Fitness.

10-504-707-00 Intermediate Investigations
In this course, students will learn and apply the skills from the Phase II topics outlined in the WI Department of Justice 720 Academy. Topics include: Constitutional Law II, Crimes II, Domestics, and Report Writing. Student learning will occur through lecture and the Department of Justice 720 Academy Integration Exercises. Lab, Lecture. Credits: 3. Prerequisite(s): 1050470300 Basic Investigations (C or better). Corequisite(s): 10-504-710-00 Advanced Investigations.

10-504-708-00 Physical Fitness
In this Phase III course, students will apply Physical Fitness skills and Officer Wellness required by the WI Department of Justice 720 Academy. Students will apply learning in hands-on lab activities and an on campus physical fitness test/ assessment. Lab, Lecture. Credits: 1. Corequisite(s): 10-504-706-00 Emergency Vehicle Response.

10-504-709-00 Traffic Response
In this course, students will learn and apply the skills from the Phase III topics outlined in the WI Department of Justice 720 Academy. Topics include: Traffic Law Enforcement - Core and Radar, Traffic Crash Investigations and Incident Management, Operating While Intoxicated (OWI), Standardized Field Sobriety Testing (SFST), and Report Writing. Student learning will occur through lecture and on-campus lab activities. Lab, Lecture. Credits: 3. Prerequisite(s): 1050470200 Basic Tactics (C or better). Corequisite(s): 10-504-704-00 Intermediate Patrol Response.

10-504-710-00 Advanced Investigations
In this course, students will learn and apply the skills from the Phase III topics outlined in the WI Department of Justice 720 Academy. Topics include: Ethics II: Moral Reasoning and Professional Responsibility, Cultural Competence II: Fair and Impartial Policing, Victims, Sexual Assault, Child Maltreatment, Interrogations, Testifying in Court, and Crimese. Student learning will occur through lecture, on-campus lab activities, and the Department of Justice 720 Academy Integration Exercises. Lab, Lecture. Credits: 3. Corequisite(s): 10-504-707-00 Intermediate Investigations.

10-504-900-00 Intro to Criminal Justice
Offers a broad overview of the criminal justice system with emphasis on law enforcement and related agencies. The American criminal justice system and its components are thoroughly examined. Particular emphasis is placed on the professional development as well as scientific achievements and technological developments of law enforcement. Lecture. Credits: 3. Prerequisite(s): 1050410400 Criminal Justice Program Orientation (C or better).

10-504-901-00 Constitutional Law
Involves a detailed study of the legal aspects of arrest, search and seizure law. Emphasis is placed on the procedure of law and the accompanied process. Constitutional principles for procedure and constitutional safeguards outlined in the Bill of Rights as well as the balance of individual rights and freedoms against the rights of the state are explored in depth. Lecture. Credits: 3. Prerequisite(s): 1050490000 Intro to Criminal Justice (C or better).

10-504-902-00 Criminal Law
Deals specifically with substantive criminal law which includes an understanding of acts or omissions, the mental state, and other essential elements, all of which combine to constitute a crime. Lecture. Credits: 3. Corequisite(s): 10-504-700-00 Introduction to Criminal Justice.

10-504-903-00 Professional Communications
In order to ethically discharge their duties criminal justice professionals must community on a daily basis with a wide variety of people. This course is designed to prepare the law enforcement officer to communicate with the public in a professional manner, often time under extraordinary circumstances and conditions. Whether in patrol, corrections, dispatch, or the private sector, communications is a major part of the job. Because it is such a major part of the job, it is imperative to set communication skills in the context of the criminal justice professional. Lecture. Credits: 3. Prerequisite(s): 1050490000 Intro to Criminal Justice (C or better).

10-504-904-00 Juvenile Law

Studies the juvenile justice system and how "juveniles" are legally defined. Parallels between juvenile and adult systems are also presented because certain types of offenders may be processed by either system. Lecture. Credits: 3.

10-504-905-00 Report Writing
Students will explain the context of report writing, take effective field notes, organize information in reports, write narratives, describe what information should be included in certain types of reports, prepare for court, describe how to be an effective witness, and testify as a witness in court. Lecture. Credits: 3. Prerequisite(s): 1080119500 Written Communication (C or better) or 2080121900 English Composition I (C or better).

10-504-906-00 Criminal Investigation Theory
Focuses on the investigative process. The intent of the course is to convey an understanding of the responsibilities of the first officer responding to crime scene. An overview of the investigative process includes crime scene processing, identification and processing of evidence. Lab includes hands-on fingerprinting and latent fingerprint processing as well as crime scene analysis/ investigation. Lecture. Credits: 3. 1050414500 Rules of Evidence (C or better)

10-504-907-00 Community Policing Strategies
Deals with the sociological aspects of police-community interactions. The dynamics of a diverse society are explored in order to develop the necessary knowledge, skills, and attitudes that reflect understanding of the diversity within communities. Lecture. Credits: 3.

10-504-908-00 Traffic Theory
Provides an introduction of patrol procedures for law enforcement with emphasis on enforcement of traffic laws , investigation of traffic-related offenses and traffic accidents , and procedures and practices of patrolling the community will be discussed. Students will participate in patrolling with a police vehicle. Course includes an on-scene accident investigation. Lecture. Credits: 3.

10-504-920-00 Corrections Security Procedures
Learners will demonstrate the steps involved in receiving and releasing inmates, maintaining security, and practicing the basic principles of supervision and behavior control. Topics include: admission, release, and search procedures; use of jail locking and surveillance equipment; principles of supervision; and inmate health management procedures. All procedures are consistent with the DOJ Jail Certifiability Standards. Covers DOJ topics introduction to POSC, admit and release inmates, inmate supervision and behavior control, supervision of special inmates/ crisis intervention, maintenance of jail security, supervision of juveniles, and personal stress management. Lecture. Credits: 3.

10-504-921-00 Corrections Emergency Procedures
Learners will demonstrate the Principles of Subject Control (POSC) in a correctional environment with an emphasis on team tactics, and will develop the skills needed for mitigation of hostage-type situations. Learners will apply current fire science concepts to jail fire-prevention and response, including search and rescue, fire suppression, and use of safety equipment. This course will include DOJ topics POSC, jail hostage response, jail health care, jail fire safety, and CPR. Lab, Lecture. Credits: 3.

10-504-926-00 Tactical Skills
Students learn advanced tactical skills related to use of force situations. Students will learn material covered in DOJ topics Defense and Arrest Tactics, Use of Force Concepts, Firearms, Deadly Force Decision Making, Tactical Response, and Hazardous Materials. Lab, Lecture. Credits: 4.

10-504-927-00 Patrol Procedure Skills
Students will be introduced to advanced strategies dealing with patrol procedures and the skills necessary to be successful as a patrol officer. Students will cover the DOJ topics Emergency Vehicle Operation, Vehicle Contacts, and OMVWI/ SFST. Lab, Lecture. Credits: 5. Prerequisite(s): 1050490000 Intro to Criminal Justice (C or better).

Culinary (316,317,109)

10-109-159-00 Restaurant Management
Analysis of management principles used in commercial restaurants and food service operations. Emphasis on planning, service, menu design, staffing, and operational budgeting. Lecture. Credits: 3.

10-316-111-00 Garde Manger
Methods and techniques of preparing and presenting food specialties created in the garde manager department are practiced. Hors d'oeuvres, salads, garnishing, food displays, charcuterie, and culinary competition units are included. Lab, Lecture. Credits: 2.

10-316-115-00 Culinary Math
Application of math procedures used by preparation, service, and management personnel in food service operations. Students solve problems in recipe sizing, costing and conversion, measurements, and equivalents, controlling costs, forms, and reports. Lecture. Credits: 2.

10-316-121-00 Sanitation and Safety Fundamentals
Applies sanitary, safety, and legal principles to practices in the food service industry. Successful completion of the course enables students to take a national sanitation certification examination. Lecture. Credits: 2.

10-316-125-00 Food Theory
Food science principles applied to professional culinary food preparation. Units include professional kitchen operation, recipe terminology, and cooking techniques for various food categories. Lecture. Credits: 3.

10-316-126-00 Food Production Principles
Provides practical experience applying food science principles in food preparation, analysis, and evaluation of preparation techniques. Lab. Credits: 3. Prerequisite(s): 1031612500 Food Theory (C or better) (concurrent enrollment is allowed) and 1031612100 Sanitation and Safety Fundamentals (C or better) (concurrent enrollment is allowed).

10-316-130-00 Nutrition
Basic nutritional principles are applied to responsible food preparation in the food service industry. Recipe analysis, modification, and menu planning for clientele are discussed. Lecture. Credits: 2.

10-316-140-00 Food Practicum I
Cafeteria style restaurant service applying principles, methods, and practices of professional food production. Students rotate weekly to kitchen and dining room stations. Lab. Credits: 3. Prerequisite(s): 1031612100 Sanitation and Safety Fundamentals (C or better) and 1031612500 Food Theory (C or better) and 1031612600 Food Production Principles (C or better).

10-316-141-00 Food Practicum II
A'la carte restaurant service applying principles, methods, and practices of professional food production. Students rotate weekly to kitchen and dining room stations. Lab. Credits: 3. Prerequisite(s): 1031614000 Food Practicum I (C or better) (concurrent enrollment is allowed).

10-316-150-00 Catering
Explores set-up and operation principles for on- and off-premise catering, deli and take-out food, and buffet and banquet management. International cuisines are investigated. Lab, Lecture. Credits: 3. Prerequisite(s): 1031614000 Food Practicum I (C or better).

10-316-151-00 Advanced Professional Cooking
Develops advanced culinary skills necessary for success in quality food service operations. Classical terminology, philosophies, and techniques are refined for the modern kitchen. Lab, Lecture. Credits: 3. Prerequisite(s): 1031614000 Food Practicum I (C or better).

10-316-152-00 Professional Baking
Introduces modern bakeshop principles used to produce quick and yeast breads, restaurant style desserts, and pastries. Products are evaluated for practicality, flavor, presentation, and correct techniques. Lab, Lecture. Credits: 3. Prerequisite(s): 1031612600 Food Production Principles (C or better).

10-316-153-00 Advanced Baking
Application and refinement of basic baking knowledge and techniques gained in Professional Baking. Units include rolled-in dough, specialty breads, European-style desserts, petit fours, and decorative work. Lab, Lecture. Credits: 3. Prerequisite(s): 1031615200 Professional Baking (C or better).

10-316-155-00 Menu Planning

Develops skill in planning creative, well-designed, and informative menus for use in the food service industry. Includes planning, design elements, layout, and copy writing. Lecture. Credits: 2. Prerequisite(s): 1031612100 Sanitation and Safety Fundamentals (C or better) and 1031612500 Food Theory (C or better) and 1031612600 Food Production Principles (C or better).

10-316-160-00 Food Purchasing
Examines standards and specifications of food purchasing with emphasis on quality, grading, optimal price, and ordering requirements. Situational problems develop skills for work situations. Lecture. Credits: 2. Prerequisite(s): 1031611500 Culinary Math (C or better) and 1031612500 Food Theory (C or better) and 1031612600 Food Production Principles (C or better).

10-316-170-00 Restaurant Practicum I
Refines techniques used in restaurant food production. Students plan menus, develop food purchasing requisitions, design work assignments, and operate the on-campus restaurant. Lab. Credits: 3. Prerequisite(s): 1031614100 Food Practicum II (C or better) and 1031615000 Catering (C or better) and 1031615100 Advanced Professional Cooking (C or better) and 1031615200 Professional Baking (C or better) and 1031615500 Menu Planning (C or better).

10-316-171-00 Restaurant Practicum II
Refines techniques used in restaurant food production. Students plan menus, develop food purchasing requisitions, design work assignments, and operate the on-campus restaurant for a' la carte service. Lab. Credits: 3. Prerequisite(s): 1031617000 Restaurant Practicum I (C or better) (concurrent enrollment is allowed).

10-316-175-00 Food Service Cost Control
Analysis of the factors affecting food and beverage cost control. Purchasing, receiving, preparation, storage, and inventory practices are examined. Lecture. Credits: 2. Prerequisite(s): 1031611500 Culinary Math (C or better).

10-316-180-00 Food Service Supervision
Introduction to food service management. Fundamentals of leadership, communication techniques, employee motivation, recruitment, hiring, training employees, and problem solving/ decision making processes are covered. Lecture. Credits: 3.

10-316-190-00 Culinary Internship
Placement in selected restaurant establishments to gain experience in work situations. Work plans will be constructed to include multiple aspects of the food service industry. Occupational. Credits: 2. Prerequisite(s): 1010311500 MS Word Beginning (C or better) and 1031611500 Culinary Math (C or better) and 1031612100 Sanitation and Safety Fundamentals (C or better) and 1031612500 Food Theory (C or better) and 1031612600 Food Production Principles (C or better) and 1080119500 Written Communication (C or better) and 1080919700 Contemporary Amer Society (C or better) and 1031611100 Garde Manger (C or better) and 1031613000 Nutrition (C or better) and 10-316-140-00 Food Practicum I (C or better) and 1031614100 Food Practicum II (C or better) and 1080119600 Oral Interpersonal Communication (C or better) and (1080916600 Intro to Ethics Theory and Application (C or better) or 2080922500 Ethics (C or better)).

10-316-190-01 Culinary Internship
Placement in selected restaurant establishments to gain experience in work situations. Introductory work plans will be constructed to include multiple aspects of the food service industry. Occupational. Credits: 1.

10-316-190-02 Culinary Internship
Continuation of placement in selected restaurant establishments to gain experience in work situations. Advanced work plans will be constructed to include multiple aspects of the food service industry. Occupational. Credits: 1.

10-317-120-00 Beverage Management
Introduces the management, responsible service, and sales of beverages. The areas of planning, equipping, staffing, product knowledge and purchasing, inventory management, marketing, and legal regulations are included. The Responsible Beverage Server portion fulfills Wisconsin Statutes which requires new applicants/ bartenders/ operators to complete training before a license is issued. Lecture. Credits: 2.

10-317-121-00 Dining Room Management
This course emphasizes the service aspect of a hospitality business to create an exceptional customer experience. Examines how the dining room manager is responsible for maintaining standards of service, training of dining room staff, and motivating and monitoring staff to ensure customers' expectations are being exceeded. The course covers general rules of various service types, how to handle reservations, functions and procedures for dining room staff, and using current point-of-sale technology. Also included are sales techniques for service personnel including menu knowledge and suggestive selling. Lab, Lecture. Credits: 2. Prerequisite(s): 1031614100 Food Practicum II (C or better).

Dental (508)

10-508-101-00 Dental Health Safety
Prepares dental auxiliary students to respond proactively to dental emergencies, control infection, prevent disease, adhere to OSHA standards, and safely manage hazardous materials. Students also take patient vital signs and collect patient medical/ dental histories. Prerequisite: Students must be currently recognized/ certified in basic life support procedures for a healthcare provider, including cardiopulmonary resuscitation prior to enrollment in this course. Lab. Credits: 1.

10-508-102-00 Oral Anatomy Embry Histology
Prepares dental hygienist students to apply detailed knowledge about oral anatomy to planning, implementation, assessment, and evaluation of patient care. Students identify distinguishing characteristics of normal and abnormal dental, head, and neck anatomy and its relationship to tooth development, eruption and health. Lab, Lecture. Credits: 4.

10-508-103-00 Dental Radiography
Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra 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 mannequin. In addition, students expose bitewing radiographs on a peer, role-play patient. Students gain further experience in exposing radiographs on patients in the clinical portion of their program. This course also provides the background in radiographic theory required for students to make informed decisions and adjustments. Clinical, Lecture. Credits: 2. Prerequisite(s): 1050810100 Dental Health Safety (C or better) (concurrent enrollment is allowed) and 1050810200 Oral Anatomy Embry Histology (C or better) (concurrent enrollment is allowed).

10-508-105-00 Dental Hygiene Process 1
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. Clinical, Lecture. Credits: 4. Prerequisite(s): 1050810100 Dental Health Safety (C or better) (concurrent enrollment is allowed) and 1050810200 Oral Anatomy Embry Histology (C or better) (concurrent enrollment is allowed).

10-508-106-00 Dental Hygiene Process 2
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, students gain further experience in exposing radiographs on patients. Reinforces the application of Dental Health Safety skills. Clinical, Lecture. Credits: 4. Prerequisite(s): 1050810200 Oral Anatomy Embry Histology (C or better) and 1050810300 Dental Radiography (C or better) and 1050810900 Cariology (C or better) (concurrent enrollment is allowed).

10-508-107-00 Dental Hygiene Ethics Professionalism
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. Lecture. Credits: 1. Prerequisite(s): 1050811700 Dental Hygiene Process 4 (C or better) (concurrent enrollment is allowed).

10-508-108-00 Periodontology

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 treatment modalities that minimize risk and restore periodontal health. Lab, Lecture. Credits: 3. Prerequisite(s): 1080619700 Microbiology (C or better) and 1050810200 Oral Anatomy Embry Histology (C or better) and 1050810300 Dental Radiography (C or better) and 1050810600 Dental Hygiene Process 2 (C or better) (concurrent enrollment is allowed).

10-508-109-00 Cariology
Focuses on the characteristics and contributing factors of dental decay. Dental Hygiene students help patients minimize caries risk by developing treatment plans, communication methods to patients, and evaluating treatment results. Lecture. Credits: 1. Prerequisite(s): 1080619700 Microbiology (C or better) and 1050810600 Dental Hygiene Process 2 (C or better) (concurrent enrollment is allowed).

10-508-110-00 Nutrition and Dental Health
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. Lecture. Credits: 2. Prerequisite(s): 1050810900 Cariology (C or better) (concurrent enrollment is allowed).

10-508-111-00 General and Oral Pathology
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. Lecture. Credits: 3. Prerequisite(s): 1050810300 Dental Radiography (C or better) and 1050810200 Oral Anatomy Embry Histology (C or better).

10-508-112-00 Dental Hygiene Process 3
Builds on and expands the technical/ clinical skills student dental hygienists developed in Dental Hygiene Process 2. In consultation with the instructor, students apply independent problem-solving skills in the course of providing comprehensive care for calculus case 1, 2, and 3 patients and peri-case type 0, I, II, and III patients. Dental Hygiene Process 3 introduces root detoxification using hand and ultra-sonic instruments, manipulation of files, use of oral irrigators, selection of dental implace prophylaxis treatment options, and administration of chemotherapeutic agents. Students also adapt care plans in order to accommodate patients with special needs. Clinical, Lecture. Credits: 5. Prerequisite(s): 1050810600 Dental Hygiene Process 2 (C or better) and 1050810800 Periodontology (C or better) and 1050810900 Cariology (C or better).

10-508-113-00 Dental Materials
Prepares dental auxiliary students to handle and prepare dental materials such as liners, bases, cements, amalgam, resin restorative materials, gypsum products, and impression materials. Students also learn to take alginate impressions on mannequins and clean removable appliances. Lab, Lecture. Credits: 2. Prerequisite(s): 1050810100 Dental Health Safety (C or better) and 1050810200 Oral Anatomy Embry Histology (C or better).

10-508-114-00 Dental Pharmacology
Prepares student dental hygienists to select safe and effective patient pre-medication, local anesthetic, chemo-therapeutic and anti-microbial 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. Lecture. Credits: 2. Prerequisite(s): 1080619700 Microbiology (C or better) and 1050811200 Dental Hygiene Process 3 (C or better) (concurrent enrollment is allowed).

10-508-115-00 Community Dental Health
Prepares the Dental Hygiene 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. Lecture. Credits: 2. Prerequisite(s): 1050810100 Dental Health Safety (C or better) and 1050811200 Dental Hygiene Process 3 (C or better) (concurrent enrollment is allowed).

10-508-116-00 Dental Pain Management
Prepares the student dental hygienist to work within the scope of a 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. This course also addresses the recommendation of alternative pain control measures. Lab. Credits: 1. Prerequisite(s): 1050810200 Oral Anatomy Embry Histology (C or better) and 1050811200 Dental Hygiene Process 3 (C or better) (concurrent enrollment is allowed) and 1050811400 Dental Pharmacology (C or better) (concurrent enrollment is allowed).

10-508-117-00 Dental Hygiene Process 4
Builds on and expands the technical/ clinical skills student dental hygienists developed in Dental Hygiene Process 3. 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. Clinical. Credits: 4. Prerequisite(s): 1050810700 Dental Hygiene Ethics Professionalism (C or better) (concurrent enrollment is allowed) and 1050811000 Nutrition and Dental Health (C or better) and 1050811100 General and Oral Pathology (C or better) and 1050811200 Dental Hygiene Process 3 (C or better) and 1050811300 Dental Materials (C or better) and 1050811400 Dental Pharmacology (C or better) and 1050811500 Community Dental Health (C or better) and 1050811800 Dental Anxiety and Pain Management (C or better).

10-508-118-00 Dental Anxiety and Pain Management
This course prepares the student dental hygienist to work within the scope of dental hygiene practice to manage anxiety and pain for dental patients. Students learn to prepare and administer local anesthesia and nitrous oxide safely. The course also addresses the recommendation of alternative pain control measures. Lab, Lecture. Credits: 2. Prerequisite(s): 1050810200 Oral Anatomy Embry Histology (C or better) and 1050810600 Dental Hygiene Process 2 (C or better).

10-508-120-00 Dental Office Management
Prepares dental auxiliary students to manage telephones, appointments, recall systems, and inventory. Students also develop the skills need to process accounts receivable and payable, collections, and third party reimbursements. Students use dental software programs. Lecture. Credits: 2.

10-508-150-00 Dental Hygiene Transition into Practice
Prepares students to transition from the educational dental hygiene setting to the career of dental hygiene. Students will prepare for various licensure examinations, prepare a resume, visit practice settings, critically evaluate dental hygiene publications, and apply quality assurance and management principles to the practice of dental hygiene. Lecture. Credits: 1. Prerequisite(s): 1050811700 Dental Hygiene Process 4 (C or better) (concurrent enrollment is allowed).

10-508-155-00 Dental Hygiene National Board Review
An elective course which is not offered on campus, but through an online resource. The company makes the course available for all students who register for up to one year, and offers additional one-on-one support for any student who is unsuccessful on the National Boards. The review involves 18 different Dental Hygiene topics (such as test taking strategies), plus a Comprehensive Exam section. At the end of most topics there is a test section to review and reinforce the most important sections of each topic. The Comprehensive Exam is to be used by the students after completing the other review topics to check on the level of their preparedness for the exam. Access and/ or tutoring are also available on an individual basis if a student needs to use the Review after their classes' year of access has expired. Lecture. Credits: 1. Prerequisite(s): 1050811700 Dental Hygiene Process 4 (C or better).

10-508-160-00 Success Strategies for Dental Hygienists
Provides students with the tools needed for success in the vital, practical and realistic methods of critical thinking skills for dental hygienists. Decision making, problem solving, analysis of ideas, troubleshooting, creativity, setting goals and objectives are highlights of the course. Lab. Credits: 1.

10-508-304-00 Dental and General Anatomy
Prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. Lab. Credits: 2.

31-508-302-00 Dental Chairside
Prepares dental assistant students to chart oral cavity structures, dental pathology, and restorations and to assist a dentist with basic dental procedures including examinations, pair control, amalgam restoration, and cosmetic restoration. Students will also develop the ability to educate patients about preventative 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. Lab, Lecture. Credits: 5. Prerequisite(s): 1050810100 Dental Health Safety (C or better) (concurrent enrollment is allowed) and 1050830400 Dental and General Anatomy (C or better) (concurrent enrollment is allowed) and 1050811300 Dental Materials (C or better) (concurrent enrollment is allowed) or 1050811300 Dental Materials (C or better) (concurrent enrollment is allowed).

31-508-304-00 Dental and General Anatomy
Prepares dental assistant students to apply fundamentals of general and dental anatomy to informed decision-making and to professional communication with colleagues and patients. Lecture. Credits: 2.

31-508-306-00 Dental Assistant Clinical
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. They will be able to collect diagnostic and treatment data, manage infection and hazard control, perform clinical supportive treatments (four handed dentistry, maintain instruments, etc.), take diagnostic radiographs, perform dental laboratory procedures, provide patient oral health instruction, assist in managing medical emergencies, model professional behaviors, ethics, and appearance. Lecture, Occupational. Credits: 3. Prerequisite(s): 1050810100 Dental Health Safety (C or better) (concurrent enrollment is allowed) and 3150830200 Dental Chairside (C or better) (concurrent enrollment is allowed) and 3150830400 Dental and General Anatomy (C or better) (concurrent enrollment is allowed) and 1050810300 Dental Radiography (C or better) (concurrent enrollment is allowed) and 1050811300 Dental Materials (C or better) (concurrent enrollment is allowed) and 3150830700 Dental Assistant Professional (C or better) (concurrent enrollment is allowed).

31-508-307-00 Dental Assistant Professional
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 workforce, dental assistants customize or develop their portfolios and lay out an ongoing professional development plan. Lecture. Credits: 1.

31-508-308-00 Dental Chairside Advanced
Prepares Dental Assistant students to adapt chairside skills to assist with dental specialties as they are performed in general practice. Focuses on pediatric dentistry, orthodontics, oral maxillofacial surgery, endodontics, periodontic, and prosthodontics. Students will also develop the ability to assist with sealants, perform coronal polishing, and apply topical fluoride and topical anesthetics. Lab, Lecture. Credits: 5. Prerequisite(s): 3150830200 Dental Chairside (C or better) (concurrent enrollment is allowed) and 3150830900 Dental Laboratory Procedures (C or better) (concurrent enrollment is allowed).

31-508-309-00 Dental Laboratory Procedures
Prepares Dental Assistant students to produce alginate impressions and fabricate diagnostic models, oral appliances, temporary restorations, and custom trays. Students also polish oral appliances. Lab, Lecture. Credits: 4. Prerequisite(s): 1050811300 Dental Materials (C or better) and 3150830400 Dental and General Anatomy (C or better)) (concurrent enrollment is allowed) and 3150830400 Dental and General Anatomy (C or better) (concurrent enrollment is allowed) 1050830400 Dental and General Anatomy (C or better)) (concurrent enrollment is allowed) and 3150830800 Dental Chairside Advanced (C or better).

31-508-310-00 Dental Radiography Advanced
Prepares dental auxiliary students to operate x-ray units and expose bitewing, periapical, extra oral, and occlusal radiographs. Emphasis is placed on protection against x-ray hazards. Students also process, mount, and evaluate radiographs for diagnostic value. Students demonstrate competency on a manikin. In addition, students expose bitewing radiographs on a peer/ role-play patient. Lecture. Credits: 1. Prerequisite(s): 1050811300 Dental Materials (C or better) and 3150830800 Dental Chairside Advanced (C or better) (concurrent enrollment is allowed) and 3150830800 Dental Chairside Advanced (C or better) (concurrent enrollment is allowed).

31-508-311-00 Dental Assistant Clinical Advanced
Dental Assistant students apply skills developed in Dental Chairside Advanced, Dental Lab Procedures, Dental Radiography-Advanced, and Dental Office Procedures in a clinical setting with patients. Emphasizes integration of core abilities and basic and advanced occupational skills. Occupational. Credits: 2. Prerequisite(s): 3150830600 Dental Assistant Clinical (C or better) and 3150830800 Dental Chairside Advanced (C or better) (concurrent enrollment is allowed) and 3150830900 Dental Laboratory Procedures (C or better) (concurrent enrollment is allowed) and 3150831000 Dental Radiography Advanced (C or better) (concurrent enrollment is allowed) and 1050812000 Dental Office Management (C or better) (concurrent enrollment is allowed).

Early Childhood Education (307)

10-307-135-00 Family Child Care Capstone
Demonstrate the integration and application of specific concepts and skills of family child care including mixed-age curriculum, quality standards, professional development, community resources, health and wellness practices, family partnerships, and financial management. This capstone experience reflects the learner's knowledge of family child care through the development of a major project. Lecture. Credits: 3. Prerequisite(s): (1030730100 Introduction to Family Child Care (C or better) and 1030730200 Family Child Care Responsive Planning (C or better)).

10-307-148-00 ECE Foundations of Early Childhood Ed
Introduces the student to the early childhood profession. Students will integrate strategies that support diversity and anti-bias perspectives, investigate the history of early childhood education, summarize types of early childhood education settings, identify the components of a quality early childhood education program, summarize responsibilities of early childhood education professionals, and explore early childhood curriculum models. Lecture. Credits: 3.

10-307-151-00 ECE Infant and Toddler Development
Students will study infant and toddler development as it applies to an early childhood education settings. Students will 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, and examine culturally and developmentally appropriate environments for infants and toddlers. Lecture. Credits: 3.

10-307-166-00 ECE Curriculum Planning
Examines the components of curriculum planning in early childhood education. Integrates strategies that support diversity and anti-bias perspectives, examine the critical role of play, establish a developmentally appropriate environment, examine care giving routines as curriculum, develop activity plans that promote child development and learning, develop unit plans that promote child development and learning, and analyze early childhood curriculum models. Lecture. Credits: 3.

10-307-167-00 ECE Health Safety and Nutrition
Examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Integrates 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. Lecture. Credits: 3.

10-307-171-00 Infant and Toddler Group Care
Focuses on caring for infants and toddlers in group settings, both center-based and family child care. Material will cover program quality, philosophy, structure,

environments, health and safety, developmentally appropriate practice, and inclusion/ diversity issues. Lecture. Credits: 3. Prerequisite(s): 1030715100 ECE Infant and Toddler Development (C or better).

10-307-174-00 ECE Practicum 1
Students will learn about and apply the course competencies in an actual childcare setting. Students will document children's behavior, explore the standards for quality early childhood education, explore strategies that support diversity and anti-bias perspectives, implement activities developed by the co-op teacher/ instructor, demonstrate professional behaviors, practice caregiving routines as curriculum, practice positive interpersonal skills with children and adults, analyze the guiding principles and the five developmental domains related to the WI Early Learning Standards, integrate the WI Early Learning Standards into the program's teaching cycle (ongoing assessment, planning and curriculum goals, and implementation), and evaluate learning and assessment activities using the early learning standards for each individual child. Independent Study Hours, Lecture. Credits: 3. Prerequisite(s): 1030715100 ECE Infant and Toddler Development (C or better) and 1030716700 ECE Health Safety and Nutrition (C or better).

10-307-178-00 ECE Art Music and Language Arts
Focuses on beginning-level curriculum development in the specific content areas of arts, music, and language arts. Explores integration 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 care giving routines as curriculum; create developmentally appropriate language, literature, and literacy activities; create developmentally appropriate art activities; and create developmentally appropriate music and movement activities. Lecture. Credits: 3. Prerequisite(s): 1030716600 ECE Curriculum Planning (C or better).

10-307-179-00 ECE Child Development
Examines child development within the context of the early childhood education setting. Students will 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; and analyze the role of heredity and environment. Lecture. Credits: 3.

10-307-180-00 Preschool Capstone
The capstone is the last course all students take prior to completing the Preschool Credential. Covers and revisits some important themes from the prior five courses. Students will synthesize the information and demonstrate mastery through the completion of a portfolio. Clinical. Credits: 3. Prerequisite(s): 1030717800 ECE Art Music and Language Arts (C or better) and 1030718800 ECE Guiding Child Behavior (C or better) and 1030714800 ECE Foundations of Early Childhood Ed (C or better) and 1030716700 ECE Health Safety and Nutrition (C or better) and 1030717900 ECE Child Development (C or better).

10-307-181-00 Infant Toddler Capstone
The capstone is the last course all students take prior to completing the Infant Toddler Credential. Covers and revisits some important themes from the prior five courses. The student will synthesize the information and demonstrate mastery through the completion of a portfolio. Clinical. Credits: 3. Prerequisite(s): 1030715100 ECE Infant and Toddler Development (C or better) and 1030717100 Infant and Toddler Group Care (C or better) and 1030719500 ECE Family and Community Relationships (C or better).

10-307-187-00 ECE Children with Differing Abilities
Focuses on the child with differing abilities in an early childhood setting. Students will 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 education plan (IEP/ IFSP) for children with developmental differences; adapt curriculum to meet the needs of children with developmental differences; and cultivate partnerships with families who have children with developmental differences. Lecture. Credits: 3.

10-307-188-00 ECE Guiding Child Behavior
Examines positive strategies to guide children's behavior in the early childhood education setting. Students will 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, and create a guidance philosophy. Lecture. Credits: 3.

10-307-192-00 ECE Practicum 2
Students will learn to 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 care giving routines as curriculum, and utilize positive interpersonal skills with children and adults. Independent Study Hours, Lecture. Credits: 3. Prerequisite(s): 1030717400 ECE Practicum 1 (C or better) and 1030717800 ECE Art Music and Language Arts (C or better) and 1030718800 ECE Guiding Child Behavior (C or better).

10-307-194-00 ECE Math, Science, & Social Studies
Focuses on beginning-level curriculum development in the specific content areas of math, science and social studies. Students will 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, and create developmentally appropriate social studies activities. Lecture. Credits: 3. Prerequisite(s): 1030716600 ECE Curriculum Planning (C or better).

10-307-195-00 ECE Family and Community Relationships
Examines the role of relationships with family and community in early childhood education. Students will 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 on-going relationships with families; advocate for children and families; and work collaboratively with community resources. Lecture. Credits: 3.

10-307-197-00 ECE Practicum 3
Learn about and apply the ability to assess children's growth and development, implement the standards for quality and 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 care giving routines as curriculum, utilize positive interpersonal skills with children, and utilize positive interpersonal skills with adults. Independent Study Hours, Lecture. Credits: 3. Prerequisite(s): 1030719200 ECE Practicum 2 (C or better) and 1030719400 ECE Math Science and Soc St (C or better). Corequisite(s): 10-307-199-00 ECE Practicum 4.

10-307-198-00 ECE Administering an ECE Program
Focuses on the administration of an early childhood education program. Students learn to 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, and advocate for the early childhood profession. Lecture. Credits: 3.

10-307-199-00 ECE Practicum 4
Learn about and apply the ability to 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, and explore professional options in early childhood education. Independent Study Hours, Lecture. Credits: 3. Corequisite(s): 10-307-197-00 ECE Practicum 3.

10-307-301-00 Introduction to Family Child Care
Introduces family child care topics such as quality standards, health and wellness, child development, curriculum planning, guiding children's behavior, program wellness, and provider health and wellness. This course fulfills requirements for Department of Children and Families entry-level courses Fundamentals of Family Child Care and Introduction to the Child Care Profession. Lecture. Credits: 3.

10-307-302-00 Family Child Care Responsive Planning

Focuses on creating responsive family child care programming with an emphasis on building relationships and curriculum. Introduces important topics such as quality standards for relationships, intentional relationships, diversity and anti-bias perspectives, family partnerships, mixed age curriculum, learning environment indoor and outdoor. Lecture. Credits: 3.

10-307-303-00 FCC Financial Management and Planning
Focuses on managing finances of a family child care with an emphasis on principles and practices for budget planning, budget preparation, and fiscal management. Introduces important topics such as quality standards for financial management and planning, business management, financial planning, record keeping, business budgets, marketing and financial management tools and systems. Lecture. Credits: 3. Prerequisite(s): (1030730100 Introduction to Family Child Care (C or better) and 1030730200 Family Child Care Responsive Planning (C or better)).

Economics (809)

10-809-195-00 Economics
This course is 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 system, growth, supply and demand, monetary and fiscal policy, inflation, unemployment and global economic issues. Lecture. Credits: 3.

10-809-195-C01 Economics A
Students develop skills to interpret market-oriented system factors of scarcity, opportunity costs, externalities, supply and demand, growth, price signals that influence national economic policy. Lecture. Credits: 1.

10-809-195-C02 Economics B
Students will develop skills to relate factor markets to production, compare alternative economics systems, assess the impact of globalizations, and assess the effects of economics on contemporary public issues. Lecture. Credits: 1. Prerequisite(s): 10809195C01 Economics A (B or better) (concurrent enrollment is allowed).

10-809-195-C03 Economics C
Students will develop skills to relate factor markets to production, compare alternative economics systems, assess the impact of globalizations, and assess the effects of economics on contemporary public issues. Lecture. Credits: 0.50. Prerequisite(s): (10809195C01 Economics A (B or better) (concurrent enrollment is allowed) and 10809195C02 Economics B (B or better)) (concurrent enrollment is allowed).

20-809-287-00 Principles of Macroeconomics
This beginning course focuses on the economy as a whole and how it affects individuals and businesses. With an emphasis on contemporary issues, the course covers the essentials of the market system, alternative economic systems, macroeconomic indicators including GDP, employment, and inflation, business cycles, the money and banking system, fiscal and monetary policy, international trade, and the economic issues of developing nations. The goal of the course is to help students understand current national and international economic issues and the impacts of government economic policies both within our own nation and abroad. Lecture. Credits: 3.

20-809-288-00 Topics in Economics
Pursues advanced or specialized economics topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and credit value, topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-809-291-00 Principles of Microeconomics
This beginning course analyzes individual and business decision making as well as government policy effects on businesses and individuals. The course covers supply, demand, elasticity, consumer behavior, business costs of production, market structures, labor and other resource markets, and international trade effects on businesses and individuals. The goal of the course is to help students improve individual decision-making, understand the behavior of consumers, the basics of business decision-making, and the impact of government intervention in the market. Lecture. Credits: 3.

Electrician (413, 414)

50-413-531-00 ABC 1 Construction Electrician
Provides related instruction for construction electrician apprentices. Lecture. Credits: 2.

50-413-750-00 DC Electricity for Industrial Electricians
This course introduces the fundamental concepts of and computations related to DC electricity. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems. Competencies related to metering and safe use of measuring devices are included. Lab. Credits: 2.

50-413-751-00 AC Electricity for Industrial Electricians
This course is designed to introduce the industrial electrical apprentice to the basic concepts of alternating current. Emphasis is placed on circuit analysis and the problem solving skills necessary for the maintenance of modern industrial electric systems. Lab. Credits: 2.

50-413-752-00 Codes for Industrial Electricians 1: Introduction to the NEC
This course introduces the apprentice to the layout and purpose of the National Electric Code. It also strives to teach the apprentice proper methodology to research a code question and correctly interpret what they are reading. Various examples in the textbook and activity sheets help guide the apprentice through this process. Apprentices will research the structure of the National Electric Code and define the requirements of the code that are common to all electrical installations. In addition, apprentices will examine the installation requirements for fire pumps, emergency systems and fire alarms. This is the first course module of 8 dealing with electrical codes applicable to the trade. Lab. Credits: 0.50.

50-413-753-00 Codes for Industrial Electricians 2: OCPD and Electrical Device Installations
In this module of Codes for Industrial Electricians, apprentices will learn how to plan for the installation of overcurrent protection devices and how to select the proper boxes, cabinets and conduits for industrial electrical installations as called for in the NEC and other electrical codes. This is the second of 8 course modules on the NEC. Lab. Credits: 0.50.

50-413-754-00 Codes for Industrial Electricians 3: Article 250 Part A
Course three of 8 examines the application of grounding to industrial electrical situations as required by the NEC and other electrical codes. Lab. Credits: 0.50.

50-413-755-00 Codes for Industrial Electricians 4 Article 250 Part B
Course four of 8 on the NEC continues to examine Article 250 and grounding applications for industrial electrical installations. Apprentices will complete their review of this portion of the NEC and examine additional related electrical codes in effect across Wisconsin. Lab. Credits: 0.50.

50-413-756-00 Codes for Industrial Electricians 5: Article 300, Cords/ Cables, and Hazardous Installations
Course five of 8 examines article 300 of the NEC and wiring methods for industrial electrical applications. In addition, apprentices will determine sizing requirements for cords and cables for installations common to industrial facilities. Finally, the course will identify code requirements for equipment installations in hazardous locations. Lab. Credits: 0.50.

50-413-757-00 Codes for Industrial Electricians 6: Conductors, Raceways and Data/ Communication Cables
Course six of 8 covers the selection of proper conductors and raceways for industrial electrical installations as required by the NEC and other electrical codes. In addition, course competencies will include examining the installation requirements for data and communication cables. Lab. Credits: 0.50.

50-413-758-00 Codes for Industrial Electricians 7: Motors and Generators
Course seven of 8 reviews the code requirements for the selection of electrical components for typical industrial electrical motor installations. Course module includes sizing of controls, conductors, switches, branches, and more. Lab. Credits: 0.50.

50-413-759-00 Codes for Industrial Electricians 8: Transformers
Course eight of 8 reviews the electrical code requirements which provide for the protection of various industrial transformer installations. Course competencies include developing plans, sizing equipment and components, safety, and

references to applicable sections of the NEC. Lab. Credits: 0.50.

50-413-760-00 Industrial Electrician Transformers
This course is designed to introduce the Industrial Electrician Apprentice to the basic concepts of single and three-phase transformers. The course will cover transformer theory, turns, current and voltage ratios as well as proper connections and use of various transformers. Lab. Credits: 1.

50-413-761-00 Industrial Electrician Motors and Generators
This is the first course of 3 courses for industrial electrician apprentices to explore motor controls. This course introduces concepts, terminology, and safety. In addition, this is designed to give the Industrial Electrician Apprentice the knowledge required by industry to maintain electric motors and generators. This course material will cover DC motors and generators, single-phase and three-phase motors, as well as alternators. Lab. Credits: 1.

50-413-762-00 Industrial Electrician Motor Controls 1
This course will lead you through the fundamentals of electric motor control. You will learn to recognize and draw the basic symbols, the language of motor control, and how to apply these symbols, into current industrial format. You will also learn to draw and read ladder and wiring diagrams. You will be introduced to the logic used in motor control and be required to apply this logic in order to correctly interpret, design, and wire control circuits. Lab. Credits: 1.

50-413-763-00 Industrial Electrician Motor Controls 2
This is the second course of 3 and examines motor controls applicable to the industrial electrician trade. Lab. Credits: 1.

50-413-764-00 Industrial Electrician Motor Controls 3
This is the third of three courses examining motor controls applicable to the industrial electrician trade. Applications and assessment activities are intended in this course. Lab. Credits: 1.

50-413-765-00 Power Systems & Variable Speed Drives for Industrial Electricians
This course provides the opportunity for students to learn about power systems and variable speed drives (VSD's). Topics include electricity, electronics, power transmissions, motor operations, AC and DC motor drives, servo and stepper drives, peripherals and communication. Apprentices will also explore closed loop control, feedback devices, and drive maintenance and the troubleshooting of VSD's. Course includes lab/ shop and classroom lecture-lab hours. Lab. Credits: 2.

50-413-766-00 Fluid Power Systems for Industrial Electricians - Pneumatics
This is a pneumatics course customized for industrial electrician apprentices who deal with fluid power systems. This course will relate the basics of pneumatic theory and pneumatic components. Safety and the interrelationship between pneumatic power with electrical control is emphasized. Lab. Credits: 0.50.

50-413-767-00 Fluid Power Systems for Industrial Electricians - Hydraulics
The hydraulics course is customized for Industrial Electricians and relates the basics of hydraulic theory and hydraulic components. Safety and the interrelationship between hydraulic power with electrical control is emphasized. Lab. Credits: 0.50.

50-413-768-00 Industrial Electrician Solid State Electronics
This course provides the apprentice with the skills and knowledge for troubleshooting basic solid-state devices and circuits. The construction, identification, and operating characteristics of solid-state devices are investigated. The apprentice builds test circuits, gathers and analyzes data, and follows safety procedures. Methods for locating defective components are applied. The replacement of printed circuit board components is performed. Also examined is the effect of temperature on the operation of solid-state devices. Lab. Credits: 2.

50-413-769-00 Industrial Electrician Programmable Logic Controllers 1
This course is designed to teach the fundamentals of programmable logic controller and its programming software. The first course of 3 will introduce terminology, concepts, print reading and safety. Lab. Credits: 1.

50-413-770-00 Industrial Electrician Programmable Logic Controllers 2
This is the second of 3 courses for industrial electrician apprentices. Lab. Credits: 1.

50-413-771-00 Industrial Electrician Programmable Logic Controllers 3
This is the third course of 3 for industrial electrician apprentices. PLC applications and assessment projects are planned. Lab. Credits: 1.

50-413-772-00 Green Awareness for the E&I Trades
Green Awareness for the E&I Trades examines new and emerging technologies influenced by green trends which are impacting work processes today and in the future. The course introduces apprentices to green related knowledge and skills. Green topics covered in this course include energy efficiency; energy conservation; changes in state, national and local codes; lighting alternatives; alternative energy generation; energy efficient motors, drives, controllers and equipment; eliminating toxic materials and reducing wastes; and specific 'green' applications for the various trades involved under the E&I trades. Lab, Lecture. Credits: 1.

50-413-773-00 Safety & Print Reading for Industrial Electricians
This course will acquaint the apprentice with the interpretation of "Prints" (blueprints) and other engineering and manufacturing documentation. The primary focus of the course will be on the basics of prints and how they are used to convey information to technicians. Application of electrical prints from industrial settings will be studied. Lab. Credits: 0.50.

50-414-721-00 Intro to Instrumentation and Measurement for E&I
Apprentices will learn to describe and explain the make-up of an automatic control loop, the function of each of the control loop elements and the terms used to describe the loop performance and characteristics and perform mathematical functions associated with offset math and apply the concepts tom common signaling systems use used in process control systems. Course will examine the principles, methods and devices used to measure flows, temperatures, pressures, levels, and densities in various industrial process applications. Course will explore common methods and types of equipment used to measure chemical components of a material or stream. This course was formerly the MOD-11 unit in related instruction. Lab. Credits: 2.

50-414-722-00 Process Control for E&I
Apprentices will learn to describe and explain the make-up of an automatic control loop, the function of each of the control loop elements and the terms used to describe the loop performance and characteristics and to perform mathematical functions associated with offset math and apply the concepts to common signaling systems use used in process control systems. Course examines the various methods of transmitting sensor signals and lists the advantages/ disadvantages of each type of system. The principles associated with various types of control valves and accessories used as final control elements within a process are applied to common work processes. Apprentices will learn to explain the purpose of the process controller and the characteristics of a properly tuned process control loop; and the basic theory of Distributed Control Systems and describe the physical make-up and design considerations of the DCS systems. This course was formerly the MOD-12 unit for related instruction. Lab. Credits: 2.

50-414-723-00 Motor Controls for E&I Trades
Course explores the basic operation and applications for solid-state devices in motor control installations, the construction and operation of the various types of electromagnetic and solid-state relays, and the principles of operation and applications for photoelectric and proximity control devices. Apprentices will learn to describe the various mechanical and electronic methods used in accelerating and decelerating AC and DC motors and explain the construction and theory of operation of electronic DC and AC motors drives and controllers. Course covers the construction and operation of the various sensors and telemetry devices employed in electronic control of motors. Apprentices will learn how to gather information, select test equipment, and implement the proper techniques in troubleshooting an electrical motor control circuit. This course was formerly the MOD-13 unit in related instruction. Lab. Credits: 2.

Electromechanical Technology (620)

10-620-100-00 Basic Electronics
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. Lab, Lecture. Credits: 3.

10-620-105-00 Hydraulics and Pneumatics for Electromech

Overview of basic components, applications, and circuitry involved in hydraulics and pneumatics systems. Lecture and lab experiences involving pumps, valves, cylinders, fluids, and conditioners; basic theory and circuitry. Lab, Lecture. Credits: 2.

10-620-107-00 Electronic Devices and Digital Concepts
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. Lab, Lecture. Credits: 3. Prerequisite(s): 1046212600 Industrial Electronic Concepts (C or better).

10-620-110-00 Mechanical Concepts for Electromech
This course is designed to give the student a basic understanding of the mechanical concepts that are found on industrial equipment, specifically mechanical drive systems. Lab, Lecture. Credits: 2.

10-620-115-00 PLC Systems I
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. Lab, Lecture. Credits: 3.

10-620-121-00 Industrial Electronics II
In-depth concepts of industrial control and power circuits. Forward and reversing motor starters, contractors and frequency drives. 3-phase AC motors, single-phase, split-phase AC motors, and DC motors, motor starters and motor controls. Mounting and wiring of control systems for easy maintenance. Design, wire, and document control and power circuits to solve application problems. Lab, Lecture. Credits: 2. Prerequisite(s): 1046212600 Industrial Electronic Concepts (C or better).

10-620-122-00 Industrial Motor Control
This course will lead you through the fundamentals of electric motor control and power circuits. You will learn to recognize and draw the basic symbols, the language of motor control, and how to apply these symbols, into current industrial format. Forward and reversing motor starters, contractors and frequency drives. 3-phase AC motors, single-phase, split-phase AC motors, and DC motors, motor starters and motor controls. Mounting and wiring of control systems for easy maintenance. You will also learn to draw and read ladder and wiring diagrams. You will be introduced to the logic used in motor control and be required to apply this logic in order to correctly interpret, design, and wire control circuits. Lab, Lecture. Credits: 3. Prerequisite(s): 1046212600 Industrial Electronic Concepts (C or better).

10-620-130-00 PLC Systems II
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. Lab, Lecture. Credits: 2. Prerequisite(s): 1062011500 PLC Systems I (C or better).

10-620-135-00 Industrial Robotics Systems
Terminology, concepts, and components of robots, robot-type machines, and automation. Emphasis will be on interfacing automated machinery. Lab, Lecture. Credits: 3.

10-620-140-00 Sensors
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. Lab, Lecture. Credits: 2.

10-620-141-00 PLC Systems III
Determine the operation of PLC circuits using ladder diagrams, wiring diagrams, input/ output schematics, and data sheets then develop a variety of specific techniques for diagnosing malfunctions in circuits containing PLC's. Lab, Lecture. Credits: 3. Prerequisite(s): 1062013000 PLC Systems II (C or better).

10-620-145-00 Motion Control Applications
This course explains the fundamentals of stepper motors including; testing, operation, drivers, indexers, and computer control of motion for use in applications to control X Y motion such as lathes, and X Y Z motion such as control of milling machines. This course will also cover 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. Lab, Lecture. Credits: 3.

10-620-150-00 SCADA Concepts
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. Lab, Lecture. Credits: 2.

10-620-155-00 Automated Processes
This course is designed to give the student understanding and experience with various types of automated equipment, including proper lock-out, tag-out, and troubleshooting motors and motor drives. Learning activities include occupational or project experience demonstrating functionality, troubleshooting, and repair. Lab, Lecture. Credits: 2. Prerequisite(s): 1062013500 Industrial Robotics Systems (C or better).

10-620-160-00 Industrial Fluid Control Systems
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 trouble shooting of process systems. Lab, Lecture. Credits: 2. Prerequisite(s): 1062010500 Hydraulics and Pneumatics for Electromec (C or better) and 1062011000 Mechanical Concepts for Electromech (C or better).

10-620-165-00 EM System Interfacing
Hands-on interfacing of PLC's, operator interfaces, sensors, and various automated equipment to create a work cell level of automation. Students gain experience in programming, wiring, and configuration. Learn the troubleshooting and programming of a more complex process. Lab, Lecture. Credits: 2. Prerequisite(s): 1062013000 PLC Systems II (C or better) and 1062013500 Industrial Robotics Systems (C or better).

10-620-170-00 Instrumentation
Students 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. Lab, Lecture. Credits: 2. Prerequisite(s): 1062012100 Industrial Electronics II (C or better) and 1062013000 PLC Systems II (C or better).

10-620-175-00 Electromechanical Capstone
Offers electromechanical technology students the opportunity to incorporate content from the first three semesters while focusing on personal interests within the field of electromechanics. Students will begin projects as preliminary proposals, further refine them through the design phase, and then develop them into a final project. This course culminates assessment of program outcomes for the Electromechanical Technology program. Lab. Credits: 2.

Electronics (660)

31-660-311-00 Introduction to Electricity
A basic introduction to electricity. Brief electrical theory, the quantities of voltage, current, resistance, and power will be discussed. Ohm's Law, series circuits, and multimeter usage are covered. Operation of the electronics open-lab and an introduction to electrical safety will also be included. Lab, Lecture. Credits: 1. Prerequisite(s): 3266030100 Electronic Calculations 1 (C or better) (concurrent enrollment is allowed).

31-660-312-00 DC Circuits
Concentrates on the DC characteristics of circuits and electrical components. Coverage will include parallel and series-parallel circuits, batteries, electromagnetism, inductors/ coils, and capacitors. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031100 Introduction to Electricity (C or better) (concurrent enrollment is allowed).

31-660-313-00 Introduction to Alternating Current
Covers the generation of alternating current and voltage. Properties of an AC waveform such as period, frequency, peak, RMS, average and peak-to-peak are included. Three-phase voltage will also be introduced. Laboratory activities using the oscilloscope/ scopemeter are performed to verify theory. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031200 DC Circuits (C or better) and 3266030200 Electronic Calculations 2 (C or better) (concurrent enrollment is allowed).

31-660-314-00 AC Circuits
Covers the AC characteristics of inductors, transformers, and capacitors. Reactive properties and series and parallel RC, RL and RLC circuits are discussed with emphasis on operation with minimal calculations. Topics include reactance, phase angle, and fundamental AC power concepts such as power triangle and power factor. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031300 Introduction to Alternating Current (C or better) (concurrent enrollment is allowed).

31-660-321-00 Industrial Electronic Devices 1
Provides an introduction to semiconductor principles and operation. Diode types, characteristics, and operation are presented. Methods for testing and troubleshooting are investigated. Diode applications are presented with emphasis on rectification and DC power supplies. Zener diodes and packaged linear regulators are studied and applied. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031400 AC Circuits (C or better).

31-660-322-00 Industrial Electronic Devices 2
The transistor is applied as a switch and basic biasing is presented. Basic power field effect transistor function is introduced. Power control components are studied including the SCR, Triac, solid-state relays and insulted-gate bipolar transistors. Pulse width modulation is introduced, along with application to DC motor speed control. Testing and troubleshooting are also included. Lab, Lecture. Credits: 1. Prerequisite(s): 3166032100 Industrial Electronic Devices 1 (C or better).

31-660-341-00 Intro Power Systems and Circuit Protection
The operation and make-up of single- and three-phase power distribution systems found in commercial and industrial installations are investigated. Common three phase wye and delta systems are emphasized. Methods of circuit protection using fuses and circuit breakers are introduced. Instruments are applied for testing and troubleshooting. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031400 AC Circuits (C or better).

31-660-351-00 DC Generators and Motors
Basic DC generator and motor concepts, emphasizing practical characteristics and construction are presented. Machine ratings, operating characteristics, measurement, and testing are utilized to support the theory. Emphasis is placed on shunt and permanent magnet motors. Motor maintenance is introduced. Lab, Lecture. Credits: 1. Prerequisite(s): 3166031400 AC Circuits (C or better) (concurrent enrollment is allowed).

31-660-352-00 AC Motors
Basic single- and three-phase motor concepts, emphasizing practical characteristics and construction, are presented. Machine ratings, operating characteristics, measurement, and testing are utilized to support the theory. Emphasis is placed on three-phase motors and their application. Basic three-phase starting and control systems are introduced, along with ladder logic. Lab, Lecture. Credits: 1.

31-660-353-00 AC Motor Controls
Methods of controlling AC motors beyond simple on/ off control are explored. These included reduced voltage starting methods, electronic soft starting and speed control using adjustable frequency drives. Basic theory, set-up and troubleshooting are supported through hands-on activities with actual industrial equipment. Lab, Lecture. Credits: 1. Prerequisite(s): 3166036100 Industrial Control Devices (C or better).

31-660-361-00 Industrial Control Devices
Control elements found in industrial systems are investigated. These include switching elements, optical and proximity sensors, control relays, and timers. The function and application of these devices are studied, with emphasis on troubleshooting, testing, and use of control diagrams. Lab, Lecture. Credits: 1. Prerequisite(s): 3166035200 AC Motors (C or better).

31-660-371-00 Industrial Maintenance Practices
Common practices in industrial maintenance will be explored, including practices for industrial wiring systems, lighting, motors, controls, and mechanical components. Safe working practices are also included in this course. Lab, Lecture. Credits: 1. Prerequisite(s): 3166035300 AC Motor Controls (C or better).

32-660-301-00 Electronic Calculations 1
The first in a series of three courses designed to prepare students for basic electronics coursework. Starts with a review of basic math operations and covers the topics of fractions, decimal conversions, exponents, signed numbers, metric notation, square roots, evaluation of three variable expressions, graphing, unit conversions, efficiency, and percent error. Lab, Lecture. Credits: 1.

32-660-302-00 Electronic Calculations 2
The second in a series of three courses. Continues to increase the student's ability to solve algebraic expressions relating to electronics. Additional topics include sine wave analysis, introduction to right angle trigonometry, and the evaluation of trigonometric functions. Lab, Lecture. Credits: 1. Prerequisite(s): 3266030100 Electronic Calculations 1 (C or better).

Emergency Medical Services

30-531-301-00 Emergency Medical Responder and Emergency Medical Technician Part 1
This course provides foundational knowledge for Emergency Medical Technician (EMT) candidates, and all requirements for Emergency Medical Responder (EMR) candidates. Topics include: basic anatomy and physiology, patient assessment, traumatic injury management, airway management, cardiac management and basic medical care. Upon successful completion, candidates will be eligible to participate in the National Registry of EMT's Emergency Medical Responder exams required for Wisconsin EMR certification. Lab, Lecture. Credits: 2.

30-531-302-00 Emergency Medical Technician Part 2
This course will further build upon the base knowledge of the EMR and EMT Part 1 course. Topics include: expanded anatomy, physiology, and pathophysiology, disease processes, more complex patient assessment and critical thinking skills, in addition to additional skills allowed by the Wisconsin Department of Health Services/ EMS Section Scope of Practice for EMT's. Lab, Lecture. Credits: 3. Prerequisite(s): 3053130100 EMR and EMT Part 1 (C or better) (concurrent enrollment is allowed).

30-531-304-00 Advanced EMT
Expands the role and skills of the EMT. Skills involved in obtaining intravenous access, intraosseous access, medication administration, and fluid therapy will be included. Lab, Lecture, Occupational. Credits: 4. Prerequisite(s): 3053130100 EMR and EMT Part 1 (C or better).

English (801)

10-801-195-00 Written Communication
Develops writing skills which include prewriting, drafting, revising, and editing. A variety of writing assignments is designed to help the learner analyze audience and purpose, research and organize ideas, and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents. Lecture. Credits: 3.

10-801-195-C01 Written Communication A
This course documents progress through the formal writing process. Lecture. Credits: 1.

10-801-195-C02 Written Communication B
This course focuses on the elements of effective persuasive formal writing. Lecture. Credits: 1. Prerequisite(s): 10801195C01 Written Communication A (B or better) (concurrent enrollment is allowed).

10-801-195-C03 Written Communication C
This course adds ethical and efficient research strategies to formal writing. Lecture. Credits: 1. Prerequisite(s): (10801195C01 Written Communication A (B or better) (concurrent enrollment is allowed) and 10801195C02 Written Communication B (B or better)) (concurrent enrollment is allowed).

10-801-196-00 Oral Interpersonal Communication
Focuses upon developing speaking, verbal and nonverbal communications, and listening skills through individual presentations, groups activities, and other projects. Lecture. Credits: 3.

10-801-196-C01 Oral Interpersonal Communication A
In this course students will prepare an informative speech to serve the needs of a specific audience and deliver it in a public speaking context. Lecture. Credits: 0.50.

10-801-196-C02 Oral Interpersonal Communication B
In this course students will demonstrate understanding of meaning-making interpersonal skills through analysis and/ or application across personal and professional contexts. Lecture. Credits: 2. Prerequisite(s): 10801196C01 Oral Interpersonal Communication A (B or better) (concurrent enrollment is allowed).

10-801-197-00 Technical Reporting
Teaches preparation and presentation of written, oral, and multi-media technical reports. Lecture. Credits: 3. Prerequisite(s): 1080119500 Written Communication (C or better) or 2080121900 English Composition I (C or better).

10-801-197-C01 Technical Reporting A
This course introduces the learner to technical documents that might be used in a variety of formal and informal business applications: focus on language and clarity. Lecture. Credits: 1.

10-801-197-C02 Technical Reporting B
This course expands on the learner's knowledge of technical documents through the creation of reports suited for formal business applications. Lecture. Credits: 2. Prerequisite(s): 10801197C01 Technical Reporting A (B or better) (concurrent enrollment is allowed).

20-801-219-00 English Composition I
Develops expository writing and critical thinking skills, including clarity, concision, concreteness, and completeness of expression, supported by reasoning, organization, and language conventions. Lecture. Credits: 3.

20-801-223-00 English Composition II
Advances composition skills, emphasizing well-reasoned argumentative research papers. Lecture. Credits: 3. Prerequisite(s): 2080121900 English Composition I (D- or better) or 1080119500 Written Communication (B or better).

20-801-227-00 Creative Writing
Introduces the writing process as a creative framework for individual expression, emphasizing idea generation, language development, and effective revision as applied to poetry and prose. Students write and critique their own literary efforts while exploring their own writing personas. Lecture. Credits: 3. Prerequisite(s): 2080121900 English Composition I (C- or better) or 1080119500 Written Communication (B or better).

20-801-227-01 Creative Writing: Comics and the Graphic Novel
Creative Writing Comics and the Graphic Novel is a workshop-oriented course designed to guide students through the early stages of writing a comic series or graphic novel. Students will learn to create engaging, active characters; develop coherent narrative(s) around those characters; write a detailed, scene-by-scene story outline; and begin the process of scripting and storyboarding through such comics formats as page breaks, bleeds, and panel descriptions. Though this course requires no artistic ability, it is beneficial to artists as well as writers. Lecture. Credits: 3.

20-801-228-00 Advanced Creative Writing
Focuses on concentrated application of expressive language and structure to the development of poetry, fiction, or non-fiction manuscripts. Lecture. Credits: 3. Prerequisite(s): 2080122700 Creative Writing (D- or better).

20-801-231-00 British Lit Middle Ages thru 18th Cent
Examines early English literature through the 18th century Classical Period, including development of the novel. Lecture. Credits: 3.

20-801-233-00 Children's Literature
Introduces the forms, functions, and merits of literature for children. Students will read and evaluate both classic and contemporary texts for a variety of age levels. Readings, lecture, class discussion, and projects will also explore historical and cultural contexts for, and influences upon, children's literature. Lecture. Credits: 3.

20-801-234-00 Report Proposal and Grant Writing
Introduction to the theory and practice of preparing and analyzing reports and proposals intended for businesses, governmental agencies, and/ or private and corporate foundations. Individual assignments and group projects include text documents and oral presentations. Lecture. Credits: 3. Prerequisite(s): 1080119700 Technical Reporting (D- or better) or 2080122300 English Composition II (D- or better).

20-801-235-00 British Lit19th Century to Present
Examines fiction, poetry, and drama from the Romantic Revival to the Contemporary period. Lecture. Credits: 3.

20-801-239-00 American Literature 1865 to Present
Examines development of national writings from 1865 to the present as they reflect social changes and influential trends that contributed to American culture. Lecture. Credits: 3.

20-801-243-00 American Literature Colonial to 1865
Examines writings of the Colonial through the Civil War periods, including Native American traditions. Lecture. Credits: 3.

20-801-248-00 Topics in Literature
Students gain awareness of, and appreciation for, major themes, movements, and writers through an in-depth study of specific literary works as they relate to the special topic. Topics, which vary from semester to semester, may include such areas as environmental, non-fiction, gothic, world, science fiction and fantasy, women's, mystery, and detective literature. Lecture. Credits: 3.

20-801-248-01 Environmental Literature
Focuses on the aesthetic, spiritual, commercial, cultural, and historical lenses through which humans understand nature. Students may expect to read and respond to works from regional and travel writers, past and present. Lecture. Credits: 3.

20-801-248-02 Gothic Literature
Discover the horrible, the grotesque, the taboo, the supernatural, and the simply creepy in British and American gothic literature from the 19th century to the present. This course examines the characteristics of the gothic tradition in novels, short fiction, and corresponding film interpretations. We will explore representations of gender, violence, family, politics, nature, and sexuality in these texts and speculate about their enduring and evolutionary qualities. Lecture. Credits: 3.

20-801-248-03 The Graphic Novel
Students discriminate significant works in the graphic novel genre and explore how the mediums of image and word combine to create beautiful and compelling works of fiction, memoir, and criticism. Students read and analyze complex tests dealing with historical, biographical, and supernatural events with characters both realistic and fantastic. Major authors include Scott McCloud, Alan Moore, Marjane Satrapi, and Art Spiegelman. Lecture. Credits: 3.

20-801-248-04 Creative Nonfiction
Explores the boundary between truth and invention in memoir, travel, nature, crime, adventure, and other categories of fact-based literary writing, and examines both literary technique and the surge in popularity of such writing among contemporary readers. Lecture. Credits: 3.

20-801-248-05 Native American Literature
Covers readings in the contemporary American Indian genres of poetry, fiction, and creative non-fiction. Students will examine historical and contemporary themes, and analyze the oral tradition as it shapes contemporary Native American literature. Lecture. Credits: 3.

20-801-248-06 Science Fiction Literature
Provides a survey of science fiction literature, including its history, subgenres, and critical theories for examining the genre. Lecture. Credits: 3.

20-801-248-07 Contemporary World Literature
A study of contemporary world literature of the 20th century. You will read texts whose authors have been considered marginalized writers. Lecture. Credits: 3.

20-801-249-00 Sports Literature
Sports Literature explores literary themes through a variety of classic and contemporary works of mixed genres, from songs to novels to plays. These themes do not exclusively reside within the world of sport, but, in some instances, might be best illustrated by it. Analysis of these themes will also be aided by course discussion of cultures that shaped what authors had to say by way of their art. Lecture. Credits: 3.

20-801-255-00 Introduction to Literature
Presents the major literary genres of poetry, fiction, non-fiction, and drama, and their distinct characteristics. Students will be introduced to principal literary themes, relevant critical approaches, and various literary traditions and cultures. This course enhances appreciation of literature and prepares students for further literary study. Lecture. Credits: 3.

20-810-215-00 Argumentation and Debate
This course centers on the study and practice of argumentation. Students will examine theories of argumentation and advocacy, test these concepts using a current model of academic debate (e.g. World Universities, Lincoln-Douglass, National Debate Tournament), and assess the ethical implications of current policies and methods of persuasion being practiced at the local, national, and international levels. This course will serve to fulfill a Humanities requirement. Lecture. Credits: 3. Prerequisite(s): 2081020100 Fundamentals of Speech (D- or better).

31-801-304-00 Applied Communications Writing
Focuses on writing skills related to employment. Students write and edit letters, resumes, memos, and brief reports. Lecture. Credits: 2.

31-801-305-00 Applied Communication Listening Speaking
Emphasizes effective listening and speaking skills required for job performance and satisfaction. Those skills include interviewing for a job, communicating in the work place, and securing a job promotion. Lecture. Credits: 2.

General College: Comm Skills (831)

10-831-103-00 Intro to College Writing
Introduces basic principles of composition, including organization, development, unity, and coherence in paragraphs and multi-paragraph documents. Lecture. Credits: 3.

General College: Mathematics (834)

10-834-110-00 Elem Algebra with Apps
Offers traditional algebra topics with applications. Learners develop algebraic problem solving techniques needed for technical problem solving and for more advanced algebraic studies. Topics include linear equations, exponents, polynomials, rational expressions, roots, and radicals. Successful completion of this course prepares learners to succeed in technical mathematics courses. Lab, Lecture. Credits: 3. 7785478000 Principles of College Math (C or better) or UW Math Placement Basic Math score >= 250 or Accuplacer Algebra score >= 24 or Tailwind Math Math Fund score >= 16

General College: Reading (835,838)

10-838-105-00 Intro Reading and Study Skills
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. Lecture. Credits: 3.

General College: Natural Science (836)

10-836-133-00 Prep for Basic Chemistry
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. Lecture. Credits: 2.

General Studies (825,890)

10-890-100-00 College Success
Teaches college-level study techniques, personal management/ organizational strategies, and communication skills including time management, learning styles, textbook management, note-taking, library resources, critical thinking, test preparation, test-taking, health/ wellness, and diversity issues. Lecture. Credits: 1.

10-890-102-00 Interpersonal Workplace Fundamentals
Interpersonal workplace fundamentals, also known as soft skills, are the skills which help foster relationships with other people and directly link to your approach on work and life. The Interpersonal Workplace Fundamentals class will cover essential abilities such as attitude, integrity, reliability, teamwork, personality, positivity, critical thinking, dependability, punctuality, and communication. These skill areas, when mastered, will greatly increase workplace efficiency. The goal of the Interpersonal Workplace Fundamentals class will be to create awareness, understanding, and mastery of these soft skills, especially as they relate to the workplace. Lecture. Credits: 2.

10-890-102-C01 Workplace Interpersonal and Comm Skills
Students develop skills to manage interpersonal relationships in the workplace and improve workplace communication. Lecture. Credits: 1. Prerequisite(s): 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed) and 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed).

10-890-102-C02 Employability Skills and Career Awareness
This competency will cover essential abilities such as attitude, integrity, reliability, positivity, critical thinking, dependability, punctuality, and career planning. Lecture. Credits: 1. Prerequisite(s): 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed) and 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed).

10-890-103-00 Professional Career Management
Students develop an individualized, results-oriented job search strategy and research less well-known employment sources to access the "hidden job market." Emphasis is on creating personalized career search documents that get noticed, interviewing effectively in a variety of situations, and projecting a professional image-during both the job search and the first days and weeks on the new job. Lecture. Credits: 1.

10-890-103-C01 Professional Career Management
Students will develop a job search strategy that is results oriented by accessing the "hidden" job market, creating personalized career search doucments that get noticed, interviewing effectively in a variety of situations, and projecting a professional image during both the job search and at a new job. Lecture. Credits: 1.

20-890-205-00 Service Learning
Integrates local or global service with academic study, providing students with an opportunity to serve communities, apply knowledge gained in the classroom, enhance their critical thinking skills, and become informed, active, responsible, and ethical citizens. Topics and requirements vary each semester. Lecture, Occupational. Credits: 3.

20-890-205-01 Service Learning Guatemala
Integrates community service in Guatemala with academic study. In addition to Spanish language immersion, students experience and gain insight into the social, political, economic, cultural, geographic, and educational aspects of Guatemala. Student service work may be in varying areas of children's education including literacy, ESL, art, music, environmental science, health, and nutrition. Students serve the communities, apply knowledge gained in the classroom, enhance their critical thinking skills, and become informed, active, responsible, and ethical global citizens. Lecture, Occupational. Credits: 3.

Geographic Info Systems (178)

10-178-100-00 Global Positioning Systems
Gives students knowledge of the Global Positioning System (GPS) with both conceptual and hands-on applications. GIS software and real-world applications will also be introduced. Lab, Lecture. Credits: 2.

10-178-110-00 Remote Sensing
Explores the fundamental concepts and applications of remote sensing. Various hands-on remote sensing analysis techniques will be covered during laboratory sessions , including image interpretation and classification for local and regional areas. Laboratory emphasis will be placed on practical applications of remote sensing techniques and technologies. Lab, Lecture. Credits: 3.

10-178-113-00 Computer Cartography
Focuses on basic cartographic and visualization concepts and techniques to effectively convey spatial information to a reader or audience. Students will apply standard statistical techniques for analyzing data and then develop effective map displays of that characterize the most salient spatial results from that statistical analysis. Students will design basic cartographic products such as choropleth maps, contour maps, dot maps, and proportional symbol maps using GIS and they will participate in - in-class map critique sessions. They will explore advanced visualization techniques such as integrating data, text, and graphics, developing web maps, and animating maps to show temporal change. Lab, Lecture. Credits: 2.

10-178-115-00 Data Acquisitions in GIS
Learn about and engage in the acquisition, conversion, and creation of digital data. Equipment used will include but not be limited to digitizers, scanners, utilization of remote sensing data, and a Global Positioning System (GPS). Lab, Lecture. Credits: 3. Prerequisite(s): 1080616000 Geographic Information Systems (C or better).

10-178-120-00 Programming in ArcGIS
Learn and apply basic-oriented programming skills applicable to ESRI's ArcGIS software package. Web-based programming and simple web interfaces will be explored. Upon completion of this course, students will have amassed sample code for future use as well as acquired the skills to customize GIS applications. Lab, Lecture. Credits: 3.

10-178-125-00 Visualization in GIS
Continue to examine and apply 3-D GIS technology. Students will use ArcGIS software along with the 3-D Analyst extension. Additionally, students will utilize a GeoWall for 3-D visualization. Lab, Lecture. Credits: 3. Prerequisite(s): 1015212000 Introduction to Programming (C or better) (concurrent enrollment is allowed).

10-178-130-00 Analysis of Spatial Data
Leads students through the analytical capabilities of GIS. Course begins with the more elementary, but useful techniques involving locating and describing features, then proceeds to more advanced techniques based on higher-level spatial objects. Lab exercises utilize the Spatial Analyst Extension of ArcGIS to perform analysis of raster datasets. Lab, Lecture. Credits: 3. Prerequisite(s): 1080418900 Introductory Statistics (C or better) and 1017811500 Data Acquisitions in GIS (C or better) (concurrent enrollment is allowed).

10-178-135-00 Practical Applications in GIS
Gives students either a real-world project using GIS in conjunction with a public/ private agency or a project suitable in the student's field of interest. The instructor must approve all independent project before the student begins working on it. Lab, Lecture. Credits: 3. Prerequisite(s): 1017811500 Data Acquisitions in GIS (C or better).

10-178-190-00 Internship Cooperative Education in GIS
A field/ office/ lab experience in the GIS area. Course is designed to provide contact involving a variety of responsibilities and skills related in the GIS field. Students who meet the criteria for an internship are matched with available options. Special interest and requirements of the skills of the internship position are taken into consideration. Occupational. Credits: 2.

Geography (809)

20-809-210-00 Topics in Geography
Addresses one or more patterns reflecting peoples' use of the earth. Examples of topics include geography of the United States, geography of national parks, and geography of water resources. Specific topics are indicated in the schedule of classes. Lecture. Credits: 3.

20-809-212-00 Wisconsin
Examines physical and cultural patterns based on the development of physiographic regions. Emphasizes resources, agriculture, climate, economic, and urban development. Lecture. Credits: 3.

20-809-215-00 World Regional Geography
Introduces to regional geography of the world. Emphasizes relationships with, and uses of, the physical and economic world. Lecture. Credits: 3.

20-809-216-00 Human Cultural Geography
Introduces students to tools which geographers use to observe, describe, and analyze the world in which we live, with special emphasis on cultures, people, environments, regions, and their interactions. Emphasis is on using Geographic Information Systems (GIS) in a social science setting. Lecture. Credits: 3.

Graphic Design (107,201)

10-107-185-00 Web Page Fundamentals
Introduces graphic design students to web page principles beginning with building simple web pages using graphics and continuing on to build web pages with greater layout control by using table design and forms. In addition, they will have introductory experience using HTML and Cascading Style Sheets (CSS) as an important component of dynamic HTML pages and hands-on experience using in-line, embedded, and external style sheets to create dynamic pages that allow for more control over the attributes of a web page. Lab. Credits: 3.

10-107-186-00 Basic Web Page Design
Builds on concepts of web page design developed in Web Page Fundamentals. Students will learn design skills as they relate to HTML page construction, site maps with links, and visual aspects and issues of a web page. Lab. Credits: 3. Prerequisite(s): 1020110900 Design (C or better) or 2081520900 Design (C or better) (concurrent enrollment is allowed).

10-201-101-00 Art Appreciation
Explores the purpose of art as it relates to history, our society, and the issues of visual perception. Lecture. Credits: 3.

10-201-105-00 Drawing
Provides a foundation in a variety of drawing techniques and concepts through the use of figure, still life, landscape, and compositional exercises. Lab. Credits: 3.

10-201-109-00 Design
Explores the foundation studio organizational and perceptual qualities of design as they relate to a 2-dimensional surface. This course stresses design as a foundation and as visual problem solving. Lab. Credits: 3.

10-201-110-00 Life Drawing
Studies of the principles, methods, and image variations of life drawing. The course explores the figure both traditionally and as a contemporary form. Variations of the figure will be addressed, from expression to graphic design. Lab. Credits: 3.

10-201-113-00 Painting
Explores the principles, methods, and image variations of painting. Lab. Credits: 3.

10-201-140-00 Basic Photography
Examines the principles of light, depth, exposure, printing, developing negatives, and printing black and white 35 mm film. Lab. Credits: 3.

10-201-150-00 Intermediate Design
Builds on concepts introduced in the Design and Graphic Design classes. Learning is focused intensively on the formal elements of art as they are organized by the principles of design within the two and three-dimensional space. Course work is based on the exploration of conceptual and technical issues relevant to the project specification and target audience. Lab. Credits: 3. Prerequisite(s): 1020117500 Computer Graphics (C or better) and 1020118100 Graphic Design (C or better) and (1020110900 Design (C or better) or 2081520900 Design (C or better)).

10-201-160-00 Digital Video
Hands-on, studio course in which students learn the basic tools of digital storytelling, using the digital video camera, and digital editing workflow from pre-shoot planning to final output. Focuses on foundational principles in camera and editing basics common to most digital video cameras and non-linear editing suites. Students independently shoot and produce their own creative work. Topics include high definition digital camera operation, monitor calibration, camera-to-editor acquisition and workflow, tape and tapeless workflow, chromakeying, studio and location shooting, basic digital sound acquisition and editing, lighting basics, editing basics, principles and software, and compression and delivery for various media. Lab. Credits: 3. Prerequisite(s): 1020114000 Basic Photography (C or better) or 2081524000 Basic Photography (C or better).

10-201-165-00 Compositing and Visual Effects
Students learn basics of motion graphic design and post-production processes in a digital video workflow environment. Emphasis on creating independent animated pieces which visually communicate a message and creating effects and post-production corrections/ modifications consistent with provided conceptual direction in a collaborative environment. Topics include color correction, basics and principles of motion graphic design and effects software, typography for screen, video compositing and image correcting, rotoscoping, basics and principles of visual effects, basics and principles of graphic animation (news and television graphics, lower thirds, animated logos, etc.), and compression and delivery for various media. Lab. Credits: 3. Prerequisite(s): 1020118400 Introduction to Digital Media (C or better) (concurrent enrollment is allowed).

10-201-170-00 Graphic Design Portfolio
Covers compiling and evaluating portfolio content in graphic design. Presentation skills are mastered and visual portfolio is completed in this class. Lab. Credits: 3. Prerequisite(s): (1020110100 Art Appreciation (C or better) or 2081520100 Art Appreciation (C or better)) and (1020111300 Painting (C or better) or 2081521300 Painting (C or better) or 2081521500 Watercolor (C or better)) and (1020114000 Basic Photography (C or better) or 2081524000 Basic Photography (C or better)) and (1020111000 Life Drawing (C or better) or 2081521000 Life Drawing (C or better)) and 10-201-160-00 Digital Video (C or better).

10-201-175-00 Computer Graphics
Explores the computer's graphic capabilities in presenting images and investigating visual ideas. Lab. Credits: 3.

10-201-176-00 Advanced Computer Graphics
Explores advanced applications of leading graphics software packages on the Macintosh platform; introduces pre-press work. Lab. Credits: 3. Prerequisite(s): 1020117500 Computer Graphics (C or better) and 1020118100 Graphic Design (C or better) (concurrent enrollment is allowed) and (1020110900 Design (C or better) or 2081520900 Design (C or better)).

10-201-181-00 Graphic Design
Examines the structure of words and images in graphic design. Covers basic principles of typographic design. Lab. Credits: 3.

10-201-183-00 Typography
Introduction to the art of visual communication-through the most basic element of communication-the word. Explore the enhancement of communication by the employment of typographic skills. Placing emphasis on the historical development of type styles, the expressive potential of type, the application of typographic principles and the organization of information. Utilizes Adobe Illustrator, InDesign, Photoshop and Acrobat. Lab. Credits: 3. Prerequisite(s): 1020118100 Graphic Design (C or better) and 1020117500 Computer Graphics (C or better) and (1020110900 Design (C or better) or 2081520900 Design (C or better)).

10-201-184-00 Introduction to Digital Media
Investigates advanced design techniques and conceptual development in digital and time based media. Covers the issues of advanced interactivity and the consideration of time and narrative as design elements in digital media. Work is performed in both web and video media. Lab. Credits: 3. Prerequisite(s): 1020117600 Advanced Computer Graphics (C or better) (concurrent enrollment is allowed).

10-201-185-00 Interactive Multimedia
Takes the student through the basic of two-dimensional animation and interactivity for the web. Students will become familiar with, and complete projects with software such as Macromedia Flash, Dreamweaver, and Image Ready. Theory and practice will include scripting, design concepts, site organization, file optimization, and working with both film and sound clips. Lab. Credits: 3. Prerequisite(s): 1020117600 Advanced Computer Graphics (C or better) (concurrent enrollment is allowed).

Heavy Equipment Operator (447)

30-447-301-00 Basic Heavy Equipment Operator
HEO training is an introduction to basic heavy equipment operation providing students with the technical and interpersonal skills necessary for success as an entry-level heavy equipment operator. Participants will learn the essential skills needed to safely operate heavy equipment as well as how to perform basic equipment maintenance, adjustments and repairs. As part of the focus on safety, participants will learn about environmental standards and construction site fundamentals such as grades and soil properties. Lecture. Credits: 2.

50-447-510-00 Heavy Equipment Operator - Classroom Level I
This course introduces students to the basic terminology and equipment used in the heavy equipment trade. This course also introduces the student to working around heavy equipment in a safe and responsible manner. The student will learn how to use personal protective equipment, set up barricades and barriers, and use flags and paddles to control traffic. This course also covers trenching and excavation safety precautions. The student will learn what to expect from an apprenticeship program in heavy equipment and what makes a good operator. Lecture. Credits: 2.

50-447-511-00 Heavy Equipment Operator - Field Experience Level I
In this course, the student will learn about the pre-operational checks and operator maintenance tasksfor heavy equipment. The student will learn basic startup procedures and will be introduced to basic operation of various heavy equipment machines. This course will provide students with an opportunity for hands-on machine operation time on primarily level ground. Students will learn the basic concepts and procedures related to the use of heavy equipment by performing earthmoving work. Students will identify and select the most appropriate types of equipment for a given task and then operate the heavy equipment to perform the work. Lab. Credits: 2. Prerequisite(s): 5044751000 Heavy Equip Operator Classrm Level I (C or better) (concurrent enrollment is allowed).

50-447-512-00 Heavy Equipment Operator - Classroom Level II
This course introduces students to the primary components of a rough-terrain forklift, on-road dump trucks, and skid steers along with prestart inspections, preventive maintenance, and the proper operating procedures. It also provides training on the formulas and calculations used to determine the amounts of soil and other material to be removed from or added to a job-site excavation, focusing on volume and weight calculations. The course also covers the work involved in preparing a site for excavation and construction, along with introducing students to the various types of soils, their properties, and how these properties affect the heavy equipment operator. Lecture. Credits: 2. Prerequisite(s): 5044751100 Heavy Equip Operator Field Exp Level I (C or better).

50-447-513-00 Heavy Equipment Operator - Field Experience Level II
In this course, the student will continue to learn about the pre-operational checks and operator maintenance tasks for heavy equipment. The student will continue to advance learning startup procedures and will be performing basic operation of various heavy equipment machines. This course will provide students with an opportunity for hands-on machine operation time on both level ground and introduce them to inclined ground. Students will learn general concepts and procedures related to the use of heavy equipment by performing earthmoving work. Students will identify and select the most appropriate types of equipment for a given task and then operate the heavy equipment to perform the work. Lab. Credits: 2. Prerequisite(s): 5044751200 Heavy Equip Operator Classrm Level II (C or better) (concurrent enrollment is allowed).

50-447-514-00 Heavy Equipment Operator - Classroom Level III
This course introduces students to common types of equipment and instruments used for finish grading, materials and methods used to stabilize soils and control soil erosion, and finishing and grading methods used for various applications. Students will be able to identify and describe the common uses, types, components, instruments, and controls of backhoes, off-road dump trucks, dozers, wheel loaders, compaction equipment, and excavators. Lecture. Credits: 2. Prerequisite(s): 5044751300 Heavy Equip Operator Field Exp Level II (C or better).

50-447-515-00 Heavy Equipment Operator - Field Experience Level III
In this course, the student will continue to learn about the pre-operational checks and operator maintenance tasks for heavy equipment. The student will continue to advance in startup procedures and will be performing more advanced operation of various heavy equipment machines. This course will provide students with an opportunity for hands-on machine operation time on both level and advance inclined ground excavation techniques. Students will learn higher level concepts and procedures related to the use of heavy equipment by performing earthmoving work. Students will identify and select the most appropriate types of equipment for a given task and then operate the

heavy equipment to perform the work. Lab. Credits: 2. Prerequisite(s): 5044751400 Heavy Equip Operator Classrm Level III (C or better) (concurrent enrollment is allowed).

History (803)

20-803-215-00 History of American People to 1877
Surveys U.S. political, social, and economic development from the pre-colonial era to the post-Civil War period. Emphasizes reading, writing, and discussion. Lecture. Credits: 3.

20-803-219-00 History of American People From 1877
Surveys U.S. political, social, and economic development from the post-Civil War era to the present. Emphasizes reading, writing, and discussion. Lecture. Credits: 3.

20-803-227-00 American Government
Emphasizes the relationships between structure, behavior, and political process in the development and functioning of the U.S. political system. Addresses political theory, political philosophy, the U.S. Constitution, federalism, elections, federal powers, interest groups, parties, mass media, congress, judiciary, the presidency, the bureaucracy, civil rights, and freedoms in American political cultures. Overviews local and state institutions and foreign policy. Lecture. Credits: 3.

20-803-240-00 History of Ethnic America
Surveys the contributions and experiences of various ethnic and racial groups from the pre-colonial era to the present. Emphasizes reading, writing, and discussion. Lecture. Credits: 3.

20-803-256-00 Modern Asian History
Examines the societies, cultures, and emergence of the Pacific Asian nations from the 19th century to the 1990s. Lecture. Credits: 3.

20-803-258-00 World History to 1500
Surveys the diversity of the human experience by examining the development and contributions of various civilizations. Emphasizes reading, writing, and discussion. Lecture. Credits: 3.

20-803-259-00 World History since 1500
Surveys the development of the human community by examining the development, contributions, and interactions of various civilizations. Emphasizes reading, writing, and discussion. Lecture. Credits: 3.

20-803-260-00 Topics in History
Pursues advanced or specialized history topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-803-260-01 Intro to Political Theory
Examines various western political theories through the analysis and comparison of their central ideas, concepts, and values. Develops each student's historical, theoretical, and functional understanding of political thought in the United States. Lecture. Credits: 3.

Industrial Equip Mechanic (462)

10-462-110-00 Mechanical Concepts 1
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 both the industrial mechanical technician and the electro-mechanical technician. Lab, Lecture. Credits: 2.

10-462-111-00 Mechanical Concepts 2
This course is designed to further the understanding the industrial mechanical technician student has about the mechanical concepts found on industrial equipment. Since all industrial machinery is equipped with some type of mechanical drive, a definite understanding of these drives is necessary for the industrial mechanic. Lab, Lecture. Credits: 2. Prerequisite(s): 1046211000 Mechanical Concepts 1 (C or better) (concurrent enrollment is allowed).

10-462-120-00 Basic Hydraulics for Industrial Mechanic
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. Lab, Lecture. Credits: 3.

10-462-125-00 Basic Pneumatics for Industrial Mechanic
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. Lab, Lecture. Credits: 3.

10-462-126-00 Industrial Electronic Concepts
Introduces the student to basics of electricity needs by the industrial mechanic. Included are basic electrical theory, operation and use of the Volt-Ohm meter, AC and DC electric motors, motor controls and wiring, and applications as needed to install, operate, and control industrial machines. Lab, Lecture. Credits: 3.

10-462-130-00 Industrial PC Applications
Helps students 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. Lecture. Credits: 2.

10-462-140-00 Pneumatic Operations for Industrial Mech
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. Vacuum components and air logic systems will be included. Lab, Lecture. Credits: 2. Prerequisite(s): 1046212500 Basic Pneumatics for Industrial Mechanic (C or better).

10-462-142-00 Hydraulic Operations for Industrial Mech
Provides the application of basic hydraulic principles into typical industrial circuits, and helps develop skills in understanding hydraulic components and their interaction to each other in demonstration circuits. Lab, Lecture. Credits: 2. Prerequisite(s): 1046212000 Basic Hydraulics for Industrial Mechanic (C or better).

10-462-144-00 Mechanical Concepts
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. Lab, Lecture. Credits: 4.

10-462-146-00 Pump Systems
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, brakes and clutches. Lab, Lecture. Credits: 3. Prerequisite(s): 1046211000 Mechanical Concepts 1 (C or better) (concurrent enrollment is allowed).

10-462-150-00 Piping Systems
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. Lab, Lecture. Credits: 2.

10-462-152-00 Troubleshooting PLC Systems
Designed to use the basic and advanced electrical and electronic control devices in control simulated and actual automated industrial machines. Motor starters, PLC operations, air logic controllers, and electro pneumatic components will be investigated. Lab, Lecture. Credits: 3. Prerequisite(s): 1046212600 Industrial Electronic Concepts (C or better).

10-462-154-00 Mechanical Print Reading and Schematics
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. Lecture. Credits: 1.

10-462-156-00 Repair Automated Manufacturing Equipment
Designed to give the student understanding and experience with various types of automated equipment, including lock out tag out procedures, set up operation, troubleshooting, and repair of machinery and its components. Lab, Lecture. Credits: 4. Prerequisite(s): 1046212600 Industrial Electronic Concepts (C or better).

10-462-160-00 Industrial Fluid Process Control Systems
Provides a hands-on approach to the study of fluid handling systems in industry. A wide variety of system components, including pumps, piping, flow control devices, flow measuring devices, level control, and related industrial instrumentation will be studied. Lab, Lecture. Credits: 3. Prerequisite(s): 1062012200 Industrial Motor Control (C or better).

10-462-162-00 Advanced Machine Troubleshooting and Repair
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. Independent Study Hours, Lecture. Credits: 2. Prerequisite(s): 1046215200 Troubleshooting PLC Systems (C or better) and 1046215600 Repair Automated Manufacturing Equipment (C or better) and 1046214400 Mechanical Concepts (C or better).

10-462-164-00 Preventative and Periodic Maintenance
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. Lecture. Credits: 2.

10-462-190-00 Industrial Maintenance Capstone
Offers industrial maintenance students the opportunity to incorporate content from the first three semesters while focusing on personal interests within the field of industrial maintenance. Students will begin projects as preliminary proposals, further refine them through the design phase, and then develop them into a final project. This course culminates assessment of program outcomes for the Industrial Mechanical Technician. Lab. Credits: 2. Prerequisite(s): 1062012200 Industrial Motor Control (C or better) and 1046211100 Mechanical Concepts 2 (C or better) and 1046215200 Troubleshooting PLC Systems (C or better).

10-462-191-00 Electromech Capstone
Offers electromechanical technology students the opportunity to incorporate content from the first three semesters while focusing on personal interests within the field of industrial electronics. Students will begin projects as preliminary proposals, further refine them through the design phase, and then develop them into a final project. This course culminates assessment of program outcomes for the Electromechanical Technology Program. Lab. Credits: 2.

Industrial Safety (449)

10-449-100-00 Industrial Safety Fundamentals
Introduces general safety for a manufacturing environment while raising the awareness of the worker to the hazards around them, and how to best protect themselves while working safely. Students will earn an OSHA 30 card and confined space certificate upon completion. Lecture. Credits: 2.

Information Technology (107,150,152,154)

10-107-127-00 IT Careers
Students research career possibilities in the IT field career and the paths and skills necessary to obtain those positions. Lecture. Credits: 1.

10-107-127-C01 IT Careers
This course will explore various fields with in the IT career and what skills are desired for each field. Lecture. Credits: 1.

10-107-128-00 Introduction to Security
Gives the student an introduction to computer security. It focuses on what security is, and why it is important in business today. The student will investigate different aspects of security from email security to denial of service attacks on a system. The student will gain practical skills necessary to protect against such attacks. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better).

10-107-128-C01 Introduction to Security A
This course will introduce the basic concepts IT Security to include attacks, defense planning, access control, Basic cryptography, Network monitoring, and incident response. Lab, Lecture. Credits: 0.75.

10-107-128-C02 Introduction to Security B
This course will investigate policies and procedures as related to IT security, and a in-depth look at physical security and how that affects IT security. Lecture. Credits: 0.50.

10-107-128-C03 Introduction to Security C
This course will identify common attacks and what measures can be take to mitigate there affect on a network. This will include wireless defense, configuring routers and switches to be more secure and different network configurations to help with defeating attacks. Lab. Credits: 0.50.

10-107-128-C04 Introduction to Security D
This course will take and in-depth look at the various Access control methods, the kind of attacks the target the application such as the web, internet browsers, and in application development. It will also look at how to harden authentication and application. Data is also a key concept in this course, how to protect it using encryption techniques, redundancy, and backup and restore to ensure data integrity and availability. Lab, Lecture. Credits: 0.75.

10-107-128-C05 Introduction to Security E
This course explores the topic of Payment Card Industry (PCI) awareness and will take a look at the criteria that has to be met in order to handle credit cards and personal information in business today. Lecture. Credits: 0.50.

10-107-190-00 Information Technology Internship
Provides a structured practical work experience in which students apply the skills and concepts of information technology under the supervision of an affiliated business and a coordinating instructor. Occupational. Credits: 3.

10-150-110-00 Networking Fundamentals
Gives the student a basic understanding of a network. The student will gain an understanding of basic networking terminology, and OSI model, network cabling practices, TCP/ IP addressing, and subnet masking. The student will investigate communication on a LAN environment. Lab, Lecture. Credits: 3.

10-150-114-00 Networking 1
This course is designed as an introduction to data network technology. It is the first in a series of two courses leading toward Cisco Certified Entry Network Technician (CCENT). Students will gain a basic understanding of routers and switches, their function and how to perform initial configurations in the Internetwork Operating System (IOS) of these devices. Students will setup various LAN hardware to implement a workable local area network to include, subnetting and variable length subnetting. Student will gain a solid foundation in network standards using both the OSI and TCP/ IP reference models. Lab, Lecture. Credits: 3.

10-150-114-C01 Networking 1A
This course will explore what a network is in today's world, identify the various networking equipment needed to allow devices to communicate, and introduce the student to how data travels across the network. Lecture. Credits: 0.50.

10-150-114-C02 Networking 1B
This course will investigate how devices access a network to include the topologies that they use and the network media required to access the network. You will also understand how Ethernet works, what the function is of switches on the network and how the ARP process works to ensure communications on the network. Lecture. Credits: 0.50. Prerequisite(s): 10150114C01 Networking 1A (B or better) (concurrent enrollment is allowed).

10-150-114-C03 Networking 1C
This course will explore the Cisco IOS and basic commands, it will look in depth at the network layer of the OSI model and the protocols that reside there. The student will learn initial router and switch commands for configuring interfaces, the boot process of the IOS and the routing process for routers for internetwork communication. Lab. Credits: 0.50. Prerequisite(s): (10150114C01 Networking 1A (B or better) (concurrent enrollment is allowed) and 10150114C02 Networking 1B (B or better)) (concurrent enrollment is allowed).

10-150-114-C04 Networking 1D

This course take an in depth look at IP addressing on the Network using both classful and classless (VLSM) addressing Schemes. It explores both IPv4 and IPv6 address schemes. Lab, Lecture. Credits: 0.75. Prerequisite(s): (10150114C01 Networking 1A (B or better) (concurrent enrollment is allowed) and 10150114C02 Networking 1B (B or better) (concurrent enrollment is allowed) and 10150114C03 Networking 1C (B or better)) (concurrent enrollment is allowed).

10-150-114-C05 Networking 1E
This course will explore the Transport, Session, Presentation and Application layers of the OSI model and the protocols that reside at each layer. Lab. Credits: 0.25. Prerequisite(s): (10150114C01 Networking 1A (B or better) (concurrent enrollment is allowed) and 10150114C02 Networking 1B (B or better) (concurrent enrollment is allowed) and 10150114C03 Networking 1C (B or better) (concurrent enrollment is allowed) and 10150114C04 Networking 1D (B or better)) (concurrent enrollment is allowed).

10-150-114-C06 Networking 1F
This course will explore network design, Basic Network Security, Network testing and verification tools, and Network troubleshooting tools and techniques. Lecture. Credits: 0.50. Prerequisite(s): (10150114C01 Networking 1A (B or better) (concurrent enrollment is allowed) and 10150114C02 Networking 1B (B or better) (concurrent enrollment is allowed) and 10150114C03 Networking 1C (B or better) (concurrent enrollment is allowed) and 10150114C04 Networking 1D (B or better) (concurrent enrollment is allowed) and 10150114C05 Networking 1E (B or better)) (concurrent enrollment is allowed).

10-150-130-00 Networking 2
This course is the second course in the Cisco Certified Entry Network Technician (CCENT) series. It will look at more indepth configuration of routers to include routing protocols, network address translation, and access control lists. Students will look at switch configuration to include virtual LANs and standard security features within the switch IOS. Sudents will also gain an understanding of device discovery, management and maintenance of the network. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better).

10-150-130-C01 Networking 2A
This course will configure routers, routing protocols, and investigate the routing tables and how to understand them. Lecture. Credits: 1.

10-150-130-C02 Networking 2B
This course will configure switches to include the concept of VLANs. The students will configure VLANs and implement VLAN routing in the network. Lab, Lecture. Credits: 1.

10-150-130-C03 Networking 2C
This course will understand the concepts of Access Control Lists (ACL's) how to configure and manage them in a working LAN evnvironment. Lecture. Credits: 0.50.

10-150-130-C04 Networking 2D
This course will investigate the Dynamic Hostr control Protocol (DHCP), and Network Address Translation)NAT) and how to configure and mange them on a router. Lab. Credits: 0.25.

10-150-130-C05 Networking 2E
This course will investigate common concepts for managing and maintaining network devices on the LAN. Lab. Credits: 0.25.

10-150-141-00 Networking 3
Students will explore advanced network configurations, including security features on both switches and routers, Network address translation, and access control lists. This course also explores advanced routing protocols and troubleshooting of the network configurations. The student will gain an understanding IPv6 and explore Wide Area Networks and their place in the enterprise network environment. Lab, Lecture. Credits: 3. Prerequisite(s): 1015013000 Networking 2 (C or better).

10-150-147-00 Emerging Network Technologies
Provides learners with, and insight into, the new and emerging technologies that use the network infrastructure to include protocols and virtualization by using the latest tools and techniques. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better).

10-150-147-C01 Emerging Network Technologies A
This course will identify the various versions of software used to implement virtualization and you will install and configure basic server settings for virtualization. Lecture. Credits: 0.50.

10-150-147-C02 Emerging Network Technologies B
This course will investigate and implement networking in a virtual environment. Lecture. Credits: 0.50.

10-150-147-C03 Emerging Network Technologies C
This course will investigate and implement storage options in a virtual environment. Lab. Credits: 0.50.

10-150-147-C04 Emerging Network Technologies D
This course will explore how to deploy virtual machines and vApps into the virtual environment. Lecture. Credits: 0.50.

10-150-147-C05 Emerging Network Technologies E
This course will explore how to protect the virtual machines and infrastructure through clusters, fault tolerance options, and backup and restore stategies. Lecture. Credits: 0.50.

10-150-147-C06 Emerging Network Technologies F
This course will identify scenarios and incorporate basic troubleshooting skills to solve the issues. Lab. Credits: 0.25.

10-150-147-C07 Emerging Network Technologies G
This course will design alarms and triggers to monitor servers, virtual machines and operations. Lab. Credits: 0.25.

10-150-166-00 Wireless Technologies
Concepts of wireless communications and the role of wireless technologies in the workplace. Students will learn the various standards and theory, and will configure wireless equipment. Students will explore Virtual Private Networks (VPN), understand their function and role in remote communications, and learn to configure and maintain VPN communications. Lab, Lecture. Credits: 3.

10-150-166-C01 Wireless Technologies A
The learner will investigate the basics of how wireless transmission of data takes place. What role an access point and an antenna have in wireless transmission. The learner will also understand the 802.11 wireless standard and what is in a typical 802.11 frame. Lecture. Credits: 1.

10-150-166-C02 Wireless Technologies B
This course will identify the configuration parameters and equipment needed to build, operate and maintain a wireless LAN. Lab, Lecture. Credits: 1.

10-150-166-C03 Wireless Technologies C
This course will explore how to troubleshoot common issues that are encountered with a wireless LAN and the devices that attach to the wireless LAN. Lab, Lecture. Credits: 1.

10-150-180-00 Server Operating Systems
Teaches basic network design, implementation, and management using Windows 2003 Server. Students install networking operating system software for servers. They establish file sharing, print sharing, log-in security, user profiles, create directory structure, implement disaster recovery strategies, configure web services, implement group policies, investigate security controls, and manage and monitor the system for performance. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better).

10-150-180-c01 Server Operating Systems A
This course investigate the various versions of Microsoft Server operating system and how to install and configure basic settings within the operating system. Lecture. Credits: 0.50.

10-150-180-C02 Server Operating Systems B
This course investigate the concept of Server virtualization and how to configure and use it in a Microsoft environment. Lab. Credits: 0.25.

10-150-180-C03 Server Operating Systems C
This course will explore active directory, the components of active directory and how to administer active directory in a domain environment. Lab, Lecture. Credits: 1.

10-150-180-C04 Server Operating Systems D
This course will explore group policy concepts and how to implement group policy objects to control the users work environment. Lab, Lecture. Credits: 0.75.

10-150-180-C05 Server Operating Systems E
This course will identify the networking components and how to integrate the server into the network environment. Lecture. Credits: 0.50.

10-152-115-00 Database Fundamentals
Students learn the fundamental concepts and applications of relational database tables using a hands-on approach. Topics include database architectures, data structures, planning, creation, inquiry, updating, input and output forms (reporting), and importation of data from an outside source for use in databases. Lab, Lecture. Credits: 3.

10-152-115-C01 Database Fundamentals A
This course explores relational database concepts including nomenclature, keys, functional dependencies, and normalization. Lab, Lecture. Credits: 1.

10-152-115-C02 Database Fundamentals B
This course examines database security concepts including user roles, backup and recovery, encryption, and concurrency. Lecture. Credits: 0.50.

10-152-115-C03 Database Fundamentals C
This course explores the creation of use case, class, and entity relationship diagrams. Lecture. Credits: 1.

10-152-115-C04 Database Fundamentals D
This course explores the creation of database based on a scenario, including development of a scenario, database requirements, and summary report. Lab. Credits: 0.25.

10-152-115-C05 Database Fundamentals E
This course explores an administrator's role and responsibilities relating to a database, including the creation of a report and a relational database examining the role of a database administrator. Lab. Credits: 0.25.

10-152-120-00 Introduction to Programming
Introduces the learner to programming concepts using structured logic and basic concepts related to computer programming and program development. Programs will be developed using sequential, selection, and looping control structures, functions, arithmetic calculations. Lab, Lecture. Credits: 3.

10-152-120-C01 Introduction to Programming A
Students learn how to develop a basic Visual Basic Program. Lab, Lecture. Credits: 0.00.

10-152-120-C02 Introduction to Programming B
Students learn how to develop a basic Java Program Lab, Lecture. Credits: 1.

10-152-125-00 Database Design and Implementation
Students learn to develop webpages that access and manipulate databases that they have created. Lab, Lecture. Credits: 4. Prerequisite(s): 1015211500 Database Fundamentals (C or better).

10-152-125-C01 Database Design and Implementation A
Students learn programming structures such as if statements and loops in PHP Lecture. Credits: 0.50.

10-152-125-C02 Database Design and Implementation B
Students learn to implement flat file functionality in PHP Lab. Credits: 0.25.

10-152-125-C03 Database Design and Implementation C
Students learn to implement arrays in PHP
Lab. Credits: 0.25.

10-152-125-C04 Database Design and Implementation D
Students learn to implement string functions in PHP
Lab. Credits: 0.25.

10-152-125-C05 Database Design and Implementation E
Students learn to implement methods in PHP
Lab. Credits: 0.25.

10-152-125-C06 Database Design and Implementation F
Students learn to implement objects in PHP
Lecture. Credits: 0.50.

10-152-125-C07 Database Design and Implementation G
Students learn to implement exceptions in PHP
Lecture. Credits: 0.50.

10-152-125-C08 Database Design and Implementation H
Students learn to implement database functionality in MySQL
Lab. Credits: 0.25.

10-152-125-C09 Database Design and Implementation I
Students develop a capstone PHP Program Lab, Lecture. Credits: 1.

10-152-131-00 Mobile Applications Development 1
Introduces the student to C# programming concepts and statements using object-oriented programming techniques for deployment on both PCs and mobile platforms such as smart phones and tablet PCs. Lab, Lecture. Credits: 3. Prerequisite(s): 1015211500 Database Fundamentals (C or better) and 1015212000 Introduction to Programming (C or better).

10-152-140-00 Emerging Software Technology
Combines the emerging development technologies and environments, such as virtual reality and simulation, for students to gain exposure to and experience with them. Lab, Lecture. Credits: 3. Prerequisite(s): 1015211500 Database Fundamentals (C or better) and 1015212000 Introduction to Programming (C or better).

10-152-140-C01 Emerging Software Technology A
Students follow examples create applications with the emerging technology
Lab, Lecture. Credits: 1.

10-152-140-C02 Emerging Software Technology B
Students create a custom application using the emerging technology
Lab, Lecture. Credits: 1.

10-152-145-00 Mobile Applications Development 2
Teaches JAVA programming language. Programs are developed using object oriented design and database records for deployment on PCs and mobile platforms such as an Android tablet and smart phone. Lab, Lecture. Credits: 3. Prerequisite(s): 1015211500 Database Fundamentals (C or better) (concurrent enrollment is allowed) and 1015212000 Introduction to Programming (C or better) (concurrent enrollment is allowed).

10-152-146-00 Programming 2
Further develops concepts introduced in Introduction to Programming and explores more advanced topics such as methods, classes and arrays. Lab, Lecture. Credits: 3. Prerequisite(s): 1015211500 Database Fundamentals (C or better) (concurrent enrollment is allowed) and 1015212000 Introduction to Programming (C or better).

10-152-146-C01 Programming 2A
Students learn to implement methods in Java
Lab, Lecture. Credits: 0.75.

10-152-146-C02 Programming 2B
Students learn to implement arrays in Java
Lab, Lecture. Credits: 0.75.

10-152-146-C03 Programming 2C
Students learn to implement objects in Java
Lab, Lecture. Credits: 0.75.

10-152-146-C04 Programming 2D
Students combine methods, arrays, and objects into a Java Program Lab, Lecture. Credits: 0.75.

10-152-155-00 e Portfolio Administration
Students will design and create an e-portfolio. This portfolio will contain information about personal achievements in the field of Information Technology as well as sample offerings of the work completed as part of their coursework while attending Nicolet College. The e-portfolio will take the form of a personal/ professional website that will be implemented on a web server for review. Lab, Lecture. Credits: 3. Prerequisite(s): 1015214600 Programming 2 (C or better) (concurrent enrollment is allowed) and 1015218300 Interactive Web Programming (C or better) (concurrent enrollment is allowed).

10-152-155-C01 ePortfolio
Students develop a website to communicate their professional persona Lab, Lecture. Credits: 3.

10-152-156-00 Simulation and Game Programming
Students learn about object oriented programming techniques using simulation software. Lab, Lecture. Credits: 3. Prerequisite(s): 1015212000 Introduction to Programming (C or better).

10-152-160-00 Programming 3
Further develops concepts introduced in Programming 2 and explores more advanced topics such as Graphical User Interfaces and databases. Lab, Lecture. Credits: 3. Prerequisite(s): 1015214600 Programming 2 (C or better).

10-152-160-C01 Programming 3A
Students learn to implement inheritance in Java Lecture. Credits: 0.50.

10-152-160-C02 Programming 3B
Students learn to implement exceptions in Java
Lab. Credits: 0.50.

10-152-160-C03 Programming 3C
Students learn to implement GUIs in Java Lecture. Credits: 0.50.

10-152-160-C04 Programming 3D
Students learn to implement a database in Java
Lecture. Credits: 0.50.

10-152-160-C05 Programming 3E
Students combine inheritance, exceptions, gui, and a database into a Java Program
Lab, Lecture. Credits: 1.

10-152-183-00 Interactive Web Programming
Students learn to create interactive webpages that respond to user input. Lab, Lecture. Credits: 3. Prerequisite(s): 1015211500 Database Fundamentals (C or better) and 1015212000 Introduction to Programming (C or better).

10-152-183-C01 Interactive Web Programming A
Students learn programming structures such as if statements and loops in JavaScript Lecture. Credits: 0.50.

10-152-183-C02 Interactive Web Programming B
Students learn to implement methods in JavaScript Lab. Credits: 0.50.

10-152-183-C03 Interactive Web Programming C
Students learn to implement arrays in JavaScript
Lecture. Credits: 0.50.

10-152-183-C04 Interactive Web Programming D
Students learn to implement objects in JavaScript
Lecture. Credits: 0.50.

10-152-183-C05 Interactive Web Programming E
Students learn to implement DOM Functionality in JavaScript
Lecture. Credits: 0.50.

10-152-183-C06 Interactive Web Programming F
Students develop a capstone JavaScript Program
Lab. Credits: 0.50.

10-154-140-00 PC Maintenance and Troubleshooting
Students will maintain and troubleshoot PC hardware and peripherals, as well as configure and upgrade PC components and modules. Students will also learn to maintain and troubleshoot PC operating systems. Lab, Lecture. Credits: 3.

10-154-140-C01 PC Maintenance and Troubleshooting A
This course will explore various hardware and firmware components and configurations of a personal computer resulting in the selection of components, assembly, and booting of a computer. Lecture. Credits: 1.

10-154-140-C02 PC Maintenance and Troubleshooting B
This course will examine modern network operating systems and explore their installation, configuration, troubleshooting, and preventive maintenance techniques. Lecture. Credits: 0.50.

10-154-140-C03 PC Maintenance and Troubleshooting C
This course will examine basic networking principles, standards, concepts, and technologies and explore applied networking concepts and technologies. Lecture. Credits: 0.50.

10-154-140-C04 PC Maintenance and Troubleshooting D
This course will examine laptop and mobile device component installation and configuration, preventative maintenance techniques, operating systems, security, connectivity, and e-mail. Lab. Credits: 0.25.

10-154-140-C05 PC Maintenance and Troubleshooting E
This course will examine printer features, types, installation, configuration, sharing, maintenance, and troubleshooting. Lab. Credits: 0.25.

10-154-140-C06 PC Maintenance and Troubleshooting F
This course will examine security treats and procedures, preventative maintenance techniques, and a basic security troubleshooting process. Lab. Credits: 0.25.

10-154-140-C07 PC Maintenance and Troubleshooting G
This course will examine communication skills in the IT profession, ethical and legal issues in the IT industry, and troubleshooting in IT. Lab. Credits: 0.25.

10-154-155-00 Microcomputer Operating Systems
Students will learn the desktop operating systems most commonly used in business. Students will manage the secure the system resources through the operating system. Peer-to-peer and simple client-server networks will be implemented. The student will also learn to install and manage various peripheral devices with the operating systems. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better) and 1015414000 PC Maintenance and Troubleshooting (C or better).

10-154-155-C01 Microcomputer Operating Systems A
This course will investigate how to manage and troubleshoot the hardware and configurationss on a desktop workstation. Lab, Lecture. Credits: 0.75.

10-154-155-C02 Microcomputer Operating Systems B
This course will explore how to manage and configure the network setting and application for a workstation. Lecture. Credits: 0.50.

10-154-155-C03 Microcomputer Operating Systems C
This course will investigate how to manage users and their access to systems and resourses on a network and the lovcal workstation. Lab, Lecture. Credits: 0.75.

10-154-155-C04 Microcomputer Operating Systems D
This course will explore various options for deploying workstations into the network infrastructure. Lab. Credits: 0.50.

10-154-155-C05 Microcomputer Operating Systems
This course will look at how to manage, monitor, and protect the workstation in the network infrastructure. Lecture. Credits: 0.50.

10-154-165-00 Project Management

The student will learn the tools and techniques of project management. The student will become familiar with the five process groups of project management and will gain experience in applying the nine knowledge areas of project management. Lab, Lecture. Credits: 3.

10-154-165-C01 Project Management
This course will examine project management principles and practices, including project initiation, project team roles and responsibilities, the Work Breakdown Structure (WBS), project schedule creation, resource planning and management, project budget and risk plan definition, project communications, change request processing and procurement documents, and project tools and documentation. Lab, Lecture. Credits: 0.00.

10-154-170-00 Help Desk Fundamentals
Students will gain knowledge and experience in applying the techniques used in problem troubleshooting, end-user support, and customer service. Students will also become familiar with and apply the tools used in user supply and help desk operations. Lab, Lecture. Credits: 3. Prerequisite(s): 1015011400 Networking 1 (C or better) and 1015414000 PC Maintenance and Troubleshooting (C or better).

10-154-170-C01 Help Desk Fundamentals A
This course will introduce you to the concept of IT service management and the ITIL framework used by many IT departments today. Lecture. Credits: 1.

10-154-170-C02 Help Desk Fundamentals B
This course will explore the customer andthe personality types of differnt customers and how to interact will different customers under various situations. Lab. Credits: 0.50.

10-154-170-C03 Help Desk Fundamentals C
This course will investigate troubleshooting tactics to solve everyday IT issues in businesss today. Lab. Credits: 0.50.

10-154-170-C04 Help Desk Fundamentals D
This course will investigate software used to manage IT departments and the dato day job tickets that IT professional encounter. Lecture. Credits: 0.50.

10-154-170-C05 Help Desk Fundamentals E
This course will explore the process of developing and presenting a viable training session. Lecture. Credits: 0.50.

10-154-177-00 Web Programming Fundamentals
Introduces the learner to the principles of web page development. In this course the students will learn to develop static web pages that contain text, images, and videos. Students will also link multiple web pages to produce a complete website. Lab, Lecture. Credits: 3.

10-154-177-C01 Web Programming Fundamentals A
This course explores designing a basic, static webpage with common HTML elements. Lecture. Credits: 0.50.

10-154-177-C02 Web Programming Fundamentals B
This course explores designing webpages that link to other webpages. Lab. Credits: 0.50. Prerequisite(s): 10154177C01 Web Programming Fundamentals A (B or better) (concurrent enrollment is allowed).

10-154-177-C03 Web Programming Fundamentals C
This course explores applying aesthetic elements to a webpage using cascading style sheets. Lecture. Credits: 0.50. Prerequisite(s): (10154177C01 Web Programming Fundamentals A (B or better) (concurrent enrollment is allowed) and 10154177C02 Web Programming Fundamentals B (B or better)) (concurrent enrollment is allowed).

10-154-177-C04 Web Programming Fundamentals D
Students develop a custom website based on the skills they have attained by completing the prior competencies. Lab, Lecture. Credits: 1. Prerequisite(s): (10154177C01 Web Programming Fundamentals A (B or better) (concurrent enrollment is allowed) and 10154177C02 Web Programming Fundamentals B (B or better) (concurrent enrollment is allowed) and 10154177C03 Web Programming Fundamentals C (B or better)) (concurrent enrollment is allowed).

Laboratory Assistant (513)

10-513-110-00 Basic Lab Skills
Explores health career options and the fundamentals principles and procedures performed in the clinical laboratory. Students will utilize medical terminology and basic laboratory equipment. Students will follow required safety and infection control procedures and perform simple laboratory test. Lab. Credits: 1. Prerequisite(s): 1050110400 Culture of Healthcare (C or better) (concurrent enrollment is allowed) and 3150930200 Human Body in Health and Disease (C or better) (concurrent enrollment is allowed). Corequisite(s): 10-513-111-00 Phlebotomy.

10-513-111-00 Phlebotomy
Provides opportunities for learners to perform routine venipuncture, routine capillary puncture, and special collection procedures. Lab, Lecture. Credits: 2. Corequisite(s): 10-513-110-00 Basic Lab Skills.

30-513-310-00 Phlebotomy 1
Phlebotomy 1 introduces the learner to basic laboratory skills including infection control, OSHA regulations, ergonomics, laboratory safety and specimen collection. The learner will also be introduced to venipuncture. Lab, Lecture. Credits: 3. Prerequisite(s): (1050110400 Culture of Healthcare (C or better) (concurrent enrollment is allowed) and 3150930200 Human Body in Health and Disease (C or better) (concurrent enrollment is allowed) and 1050110100 Medical Terminology (C or better)) (concurrent enrollment is allowed).

30-513-320-00 Phlebotomy 2
Phlebotomy 2 continues information learned in Phlebotomy 1. New skills will be learned including venipuncture, capillary puncture, heel sticks and arterial punctures. Lab, Lecture. Credits: 3. Prerequisite(s): 3051331000 Phlebotomy 1 (C or better).

30-513-321-00 EKG Basics
EKG Basics prepares the learner in electrocardiography. The learner will learn electrode placement, procedure for obtaining EKG, troubleshooting the EKG machine. Also included is Basic First Aid. Lab, Lecture. Credits: 2.

30-513-322-00 Phlebotomy Preceptorship
Phlebotomy Preceptorship provides clinical experience for the student to participate in daily work in a laboratory. The student will perform venipuncture, capillary puncture, and arterial blood draws. The student will also return to the classroom for added theory. Lecture, Occupational. Credits: 3. Prerequisite(s): (3051331000 Phlebotomy 1 (C or better) and 3051332000 Phlebotomy 2 (C or better) (concurrent enrollment is allowed) and 3051332100 EKG Basics (C or better) (concurrent enrollment is allowed) and 3150930900 Medical Law Ethics and Professionalism (C or better) (concurrent enrollment is allowed) and 1050110700 Digital Literacy for Healthcare (C or better)) (concurrent enrollment is allowed).

Land Surveying (607)

10-607-101-00 Surveying Drafting I
Presents methods of drafting and calculating techniques relating to land, engineering, and construction surveying. Preparation of maps, traverse, and area calculations are presented. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710400 Surveying I (C or better) (concurrent enrollment is allowed) and 1080411500 College Technical Math 1 (C or better) (concurrent enrollment is allowed).

10-607-102-00 Surveying Drafting Ii
Continues Surveying Drafting I. Students learn additional drafting, calculating, and mapping techniques. Calculation of horizontal curves, vertical curves, and volumes are also presented. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710100 Surveying Drafting I (C or better) and 1060710500 Surveying II (C or better) (concurrent enrollment is allowed) and 1080411600 College Technical Math 2 (C or better) (concurrent enrollment is allowed).

10-607-103-00 Legal Elements of Land Surveying
Presents legal principles and concepts relating to land and land location. Also presents professional land surveying practices and methods. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710500 Surveying II (C or better).

10-607-104-00 Surveying I
Covers the fundamental principles of plane surveying. Topics include an

introduction to surveying, theory of measurement and errors, field notes, linear measurements, transit and theodolite operations, traversing, and the compass. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710100 Surveying Drafting I (C or better) (concurrent enrollment is allowed).

10-607-105-00 Surveying II
Continues Surveying I, with additional plane surveying concepts and techniques. Topics include traversing and traverse calculations, leveling stadia, topographic surveying, and mapping. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710400 Surveying I (C or better).

10-607-106-00 Surveying III
Principles of advanced surveying are presented. Topics include total station operation, coordinating geometry applications, astronomical observations, state plane coordinates, and computer applications for surveying calculations. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710500 Surveying II (C or better) and 1060710200 Surveying Drafting II (C or better).

10-607-107-00 Land Subdivision Drawing
Covers legal requirements for land subdivision planning and design. Topics include state and county land division regulations, soil testing for on-site waste disposal systems, preparation of maps of survey, certified surveys, and an introduction to computer-aided drafting for land surveying. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710500 Surveying II (C or better).

10-607-108-00 Advanced Land Subdivision Drawing
Continues Land Subdivision Drawing I, with emphasis on the design and preparation of a state approved plat. Also includes an introduction of geographic information systems. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710700 Land Subdivision Drawing (C or better).

10-607-109-00 Route Location
Covers methods of surveying for highway transportation systems including reconnaissance, preliminary survey, and highway design including curves, and construction stakeout. Students learn and practice required field procedures. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710500 Surveying II (C or better) and 1060710200 Surveying Drafting II (C or better) and 1060710700 Land Subdivision Drawing (C or better) (concurrent enrollment is allowed).

10-607-110-00 Boundary Location
Covers principles and practices of land boundary retracement surveys and field practice in retracing boundary locations. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710600 Surveying III (C or better) and 1060710700 Land Subdivision Drawing (C or better) and 1060710300 Legal Elements of Land Surveying (C or better) (concurrent enrollment is allowed).

10-607-112-00 Surveying IV
Designed to introduce students to the basics of remote sensing, GPS, various map projections, and how to work between them. Introduces students to the latest technology they will encounter in the work place. Lab, Lecture. Credits: 3. Prerequisite(s): 1060710600 Surveying III (C or better) and 1060710700 Land Subdivision Drawing (C or better).

Leadership Development (196,625)

10-196-130-00 Leadership Development
For all the following leadership practices, demonstrate and articulate understanding of the concept and demonstrate application within case study situations: critical workplace components, motivation, change, communication, conflict resolution, employee development and coaching. Articulate the different leadership styles and assess own personal style. Lecture. Credits: 3.

Marketing (104)

10-104-111-00 Marketing Principles
Introduces modern marketing. Students study the role of marketing in business and society and will be introduced to marketing planning. Students will learn the difference between total and target markets as well as how to apply the marketing mix of pricing, promotion, product, and physical distribution to a marketing strategy. Lecture. Credits: 3.

10-104-112-00 Marketing Management
Examines the market place, including retailing, wholesaling, selling, pricing, promotion, distribution, and product development. The student applies marketing planning to a business and determines a marketing strategy, including marketing costs. Lecture. Credits: 3. Prerequisite(s): 1010411100 Marketing Principles (C or better).

10-104-120-00 Principles of Selling
Develops an understanding of the relationship between salesperson and customers. Students prepare and deliver a sales presentation that demonstrates the proper techniques of determining customer needs and presenting solutions to those needs. Lecture. Credits: 3.

10-104-130-00 Social Media and Digital Content Marketing
Develop a solid understanding of “Inbound Marketing” that focuses on quality content sought by the target market. Design and create attractive digital content that draws an audience using graphics and video along with key word targeted messaging and attention getting titles. Students will be assigned a business or organization to work with to create or improve a social media site. Gain real world experience building Facebook Business Pages, YouTube channels, and WordPress blogs. Build online customer surveys with SurveyMonkey. Create a social media campaign that increases followers or subscribers and draws them into the sales funnel. This course builds on the Search Engine Optimization techniques learned in the Digital Marketing Strategies and Skills Course. Facebook, YouTube WordPress, and SurveyMonkey are registered trademarks. Lecture. Credits: 3.

10-104-131-00 Digital Marketing Strategies and Skills
Develop knowledge, skills, strategies, and tools for digital marketing needed to target and draw customers using the internet. Acquire skill in using “Key Words” and phrases to increase visitor traffic to websites, social media, and mobile platforms. Use digital strategies to integrate marketing communications. Learn and use digital marketing statistics including the latest Search Engine Optimization (SEO) and Internet Analytic Tools from Google Analytics as well as Facebook and WordPress. Explore Customer Relationship Management (CRM) Software and digital prospecting for sales leads with data base tools like Salesforce and LinkedIn. Google Analytics, Facebook, WordPress, Salesforce, and LinkedIn are registered trademarks. Lecture. Credits: 3.

10-104-135-00 Promotion
Studies the concept of integrated marketing communications. Students design and create promotional materials in the areas of advertising, direct and interactive marketing, personal selling, sales promotion, and public relations. Students will have the opportunity to prepare and deliver an integrated marketing communications plan for a product on service of their choice. Lecture. Credits: 3.

10-104-140-00 Internet Marketing
Allows the student to utilize the internet and other digital media as a marketing tool for today's increasingly competitive and dynamic marketplace. This hands-on course helps define the role the internet plays in the growth, survival, and success of today's and tomorrow's businesses. The learner will use a variety of internet marketing tools and social media practices. Lecture. Credits: 3.

10-104-141-00 Digitial Advertising, Promotion, and Ecommerce
Gain experience creating and managing websites that have a focus on an organization's sales funnel that draws prospects and converts them into customers. Students will be assigned a business or organization to work with to create or improve a website by encouraging visitors to take actions that lead to sales. Webmaster management tools are utilized to track web visitor behavior and enable web page improvements. Explore free internet listings that promote, and point back to, the business and website. Learn how to plan, budget, design, and implement paid advertising with Facebook banner ads, Google AdWords, and mobile phone GPS based local advertising. Learn email marketing basics including: how to write/ send effective newsletters and how to utilize an automated email responder on a website to build an email contact list. Explore utilization of e-commerce on a website. Learn what is involved in becoming a vendor on Facebook Marketplace and Amazon. Facebook Marketplace, Google AdWords, and Amazon are registered trademarks. Lecture. Credits: 3.

10-104-145-00 Marketing Research
Explores the methods of collecting data through marketing research and analyzing data gathered. Includes problem definition, planning, secondary and primary data, survey design, and data collection and interpretation. Lecture. Credits: 3. Prerequisite(s): 1010312600 MS Excel Beginning (C or better) (concurrent enrollment is allowed).

10-104-175-00 Marketing Internship Capstone
Applies previously learned skills in a real (or simulated) work environment. Serves as a culminating course for marketing. Occupational. Credits: 3.

Mathematics (804)

10-804-107-00 College Mathematics
Designed to review and develop fundamental concepts of mathematics pertinent to the areas of arithmetic and algebra, geometry and trigonometry, 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 measurement within and between U.S. and metric systems, applying the Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures, and summarizing and analyzing data. Recommended: pre-algebra or appropriate placement scores. Lab, Lecture. Credits: 3. Accuplacer Algebra score >= 35 or ACT Math score >= 18

10-804-115-00 College Technical Math 1
Topics 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. Emphasis will be on the application of skills to technical problems. Lecture. Credits: 5.

10-804-116-00 College Technical Math 2
Topics include vectors, trigonometric functions and their graphs, identities, exponential and logarithmic functions and equations, radical equations, equations with rational exponents, dimension of a circle, velocity, sine and cosine graphs, complex number in polar and rectangular form, trigonometric equations, conic sections, and analysis of statistical data. Emphasis will be on the application of skills to technical problems. Lecture. Credits: 4. Prerequisite(s): 1080411500 College Technical Math 1 (D- or better).

10-804-123-00 Math with Business Applications
Covers real numbers, basic operations, linear equations, proportions with one variable, percent, simple interest, compound interest, annuity, applying math concepts to the purchasing/ buying/ selling processes, and basic statistics with business and consumer applications. Lecture. Credits: 3. Accuplacer Algebra score >= 35 or ACT Math score >= 18

10-804-123-C01 Math with Business Applications A
The student will build the tools needed for analyzing real life scenarios in the business world. Topics to be covered include basic mathematical operations, linear equations with one variable, proportions, and applications involving percentages. Lecture. Credits: 1.

10-804-123-C02 Math with Business Applications B
The student will use the tools developed in “Computations with Basic Mathematic Operations Needed in Business” to solve problems related to finance. Topics to be covered include simple and compound interest, loans, and annuities. Lecture. Credits: 1. Prerequisite(s): 10804123C01 Math with Business Applications A (B or better) (concurrent enrollment is allowed).

10-804-123-C03 Math with Business Applications C
The student will use the tools developed in “Computations with Basic Mathematic Operations Needed in Business” to solve problems involved in making basic business decisions. Topics to be studied include the mathematics involved in the purchasing and selling of products, depreciation, and basic statistics related to business. Lecture. Credits: 1. Prerequisite(s): (10804123C01 Math with Business Applications A (B or better) (concurrent enrollment is allowed) and 10804123C02 Math with Business Applications B (B or better)) (concurrent enrollment is allowed).

10-804-134-00 Mathematical Reasoning
An activity based approach is used to explore numerical relationships, graphs, proportional relationships, algebraic reasoning, and problem solving using linear, exponential and other mathematical models. Students will develop conceptual and procedural tools that support the use of key mathematical concepts in a variety of contexts. This course is not designed for Science, Technology, Engineering, or Math (STEM) students and/ or others who require calculus. Lecture. Credits: 3. Prerequisite(s): 7785478000 Principles of College Math (C or better) or Accuplacer Algebra score >= 35 or UW Math Placement Basic Math score >= 250 or ACT Math score >= 18 or Tailwind Math Math Fund score >= 16.

10-804-189-00 Introductory Statistics
Learn to display data with graphs, describe distributions with numbers, perform correlation and regression analyses, and design experiments. Students use probability and distributions to make predictions, estimate parameters, and test hypotheses. They draw inferences about relationships including ANOVA. Lecture. Credits: 3. Prerequisite(s): 1083411000 Elem Algebra with Apps (C or better) or 1080410700 College Mathematics (C or better) or 1080413400 Mathematical Reasoning (C or better) or Accuplacer Arithmetic score >= 107 or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or Tailwind Math Math Fund score >= 42.

20-804-220-00 Intermediate Algebra
Studies the construction and resulting properties of the real number system. Students simplify and factor algebraic expressions using fundamental laws and order of operations; solve first and second degree equations and inequalities in one variable, systems of equations, and exponential and logarithmic equations; graph first degree and second degree equations and inequalities in two variables; and solve equations involving rational expressions, fractional exponents and radicals. Lecture. Credits: 4. Prerequisite(s): 1083411000 Elem Algebra with Apps (C or better) or 1080413400 Mathematical Reasoning (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or ACT Math score >= 20 or Tailwind Math Math Fund score >= 40.

20-804-224-00 Algebra for Calculus
Covers properties of the real number system, algebraic expressions, equations and inequalities, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, analytic geometry, matrices, determinants, and systems of linear equations, sequences and series. Lecture. Credits: 4. Prerequisite(s): 2080422000 Intermediate Algebra (C or better) or 2080425000 Quantitative Reasoning (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 416) or Tailwind Math Adv Alg score >= 47.

20-804-227-00 Elementary Math Education I
Covers mathematics content necessary for prospective early childhood and elementary teachers. Topics include foundational and historical concepts from arithmetic and algebra. Lecture. Credits: 4. 1080413400 Mathematical Reasoning (C or better) or 1083411000 Elem Algebra with Apps (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or Tailwind Math Math Fund score >= 42

20-804-228-00 Plane Trigonometry
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. Lecture. Credits: 3. Prerequisite(s): 2080422000 Intermediate Algebra (C or better) or 2080425000 Quantitative Reasoning (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 475) or Tailwind Math Adv Alg score >= 48.

20-804-230-00 Statistics
Studies statistical techniques for the systematic collection, presentation, analysis and interpretation of data. Studies statistical inference, including confidence intervals, Types I and II errors, hypothesis testing. Also includes descriptive statistics, basic probability theory, the Central Limit Theorem, distributions, linear regression, and correlation. May require use of a graphing calculator or computer software. Lecture. Credits: 3. Prerequisite(s): 1083411000 Elem Algebra with Apps (C or better) or 1080413400 Mathematical Reasoning (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or Tailwind Math Math Fund score >= 42.

20-804-236-00 Calculus and Analytic Geometry I
Covers limits and continuity of functions, the derivative, and its applications.

Lecture. Credits: 5. Prerequisite(s): (2080422400 Algebra for Calculus (C or better) and 2080422800 Plane Trigonometry (C or better)) or (UW Math Placement Basic Math score >= 440 and UW Math Placement Algebra score >= 550) or (Tailwind Math Adv Alg score >= 54 and Tailwind Math Trig score >= 55).

20-804-237-00 Elementary Math Education II
Includes concepts of proportionality, statistics and probability, plane geometry, the geometry of solids, and measurement. Lecture. Credits: 4. 1080413400 Mathematical Reasoning (C or better) or 1083411000 Elem Algebra with Apps (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or Tailwind Math Math Fund score >= 42

20-804-240-00 Calculus and Analytic Geometry II
Covers transcendental functions, methods of integration, indeterminate forms, improper integrals, Taylor's formula, infinite series, topics from analytic geometry, plane curves, and polar coordinates. Lecture. Credits: 5. Prerequisite(s): 2080423600 Calculus and Analytic Geometry I (C or better).

20-804-241-00 Calculus and Analytic Geometry III
Topics covered include differentiation of vectors, space curves and curvature, functions of more than one variable, level curves and level surfaces, limits and continuity, partial derivatives, total differential, tangent planes, the gradient operator, the directional derivative, multivariable forms of the chain rule, locating maxima, minima, saddle points, the method of Lagrange multipliers, multiple integrals in rectangular, polar, cylindrical and spherical coordinates, transformations of multiple integrals and the Jacobian, surface area, applications of multiple integrals to geometry and mechanics, line integrals in two and three dimensions, vector fields, circulation and flux in two dimensions, and Green's Theorem. Lecture. Credits: 5. Prerequisite(s): 2080424000 Calculus and Analytic Geometry II (C or better).

20-804-250-00 Quantitative Reasoning
Intended to develop analytic reasoning and the ability to solve quantitative problems. Topics to be covered include construction and interpretation of graphs, functional relationships and mathematical modeling, descriptive statistics, basic probability, geometry, and spatial visualizations. This is a suitable final mathematics course for students who do not intend to take Calculus. Lecture. Credits: 4. Prerequisite(s): 1080413400 Mathematical Reasoning (C or better) or 1083411000 Elem Algebra with Apps (C or better) or (UW Math Placement Basic Math score >= 365 and UW Math Placement Algebra score >= 300) or Tailwind Math Math Fund score >= 40.

20-804-290-00 Topics in Mathematics
Pursues advanced or specialized mathematics topics in a traditionally structured, independent study, or service learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-804-290-01 Differential Equations Linear Algebra
Differential equations are the fundamental tools that modern science and engineering use to model physical reality. Linear algebra is a part of mathematics concerned with the structure inherent in mathematical systems. Students will see that solutions of certain differential equations in fact form a vector space, and techniques from linear algebra will allow us to solve systems of linear differential equations. Topics covered will include first order differential equations, differential models, linear systems and matrices including solving systems of equations by Gaussian elimination, matrix operations, determinants, vector spaces, higher order linear differential equations, exponential methods with matrices, and nonlinear systems. Lecture. Credits: 3. Prerequisite(s): 2080424000 Calculus and Analytic Geometry II (C or better).

20-804-290-02 Topics in Advanced Calculus
Designed for students who can work independently, studying higher-level mathematical principles in the field of calculus. Students will learn to interpret three-dimensional coordinates, general level curves and level surfaces, compute limits of multivariate functions, compute partial derivatives of multivariate functions, and evaluate double and triple integrals. Lecture. Credits: 1.

31-804-302-00 Applied Technical Mathematics
Develops skills in using mathematics principles, essential to the technical service and production workplace, through applied learning contexts. Content includes whole numbers, fractions, percent, graphs, fundamentals of algebra, geometry and trigonometry, and tools and techniques for precision measurement. Lecture. Credits: 2. Accuplacer Arithmetic score >= 61 or TABE Math Comp score >= 10 or ACT Math score >= 17

31-804-302-C01 Geometry Skills
Develops skills in using mathematics principles, essential to the technical service and production workplace, through applied learning contexts. Content includes geometry and trigonometry, and tools and techniques for precision measurement. Lecture. Credits: 1. Corequisite(s): 10-442-112-02 Print Reading and Sketching.

31-804-302-C02 Math Skills
Develops skills in using mathematics principles, essential to the technical service and production workplace, through applied learning contexts. Content includes whole numbers, fractions, percent, graphs, and fundamentals of algebra. Lecture. Credits: 1. Corequisite(s): 10-442-112-02 Print Reading and Sketching.

Medical Assistant (501,509)

10-509-108-00 Law and Ethics for Health Occupations
Examines the increasingly complex ethical and legal issues found in health care today. Students will learn to apply these issues to the client, employer, and self. The study of value systems, ethical codes of conduct, legal issues, confidentiality, global health care issues, and end of life decisions will be discussed. Lecture. Credits: 2.

31-501-308-00 Pharmacology for Allied Health
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. Lecture. Credits: 2. Prerequisite(s): 3150930200 Human Body in Health and Disease (C or better) or 1080617700 General Anatomy and Physiology (C or better).

31-509-301-00 Medical Asst Admin Procedures
Introduces Medical Assistant students to office management and business administration in the medical office. Students learn to schedule appointments, perform filing, record keeping, telephone and reception duties, communicate effectively with patients and other medical office staff, and keep an inventory of supplies. Students apply introductory medical coding skills and managed care terminology. Lab, Lecture. Credits: 2.

31-509-302-00 Human Body in Health and Disease
Introduces students to basic anatomy and physiology of the human body. Focuses on wellness and disease prevention. Students identify diseases that are frequently first diagnosed and treated in the medical office setting. Students learn to recognize 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. Lecture. Credits: 3. Prerequisite(s): 1050110100 Medical Terminology (C or better) (concurrent enrollment is allowed).

31-509-303-00 Medical Asst Lab Procedures 1
Introduces Medical Assistant students to laboratory procedures commonly performed in a medical office setting. Students perform routine laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students follow laboratory safety requirements and federal regulations while performing specimen collection and processing, microbiology, and urinalysis testing. Lab, Lecture. Credits: 2.

31-509-304-00 Medical Asst Clin Procedures 1
Introduces Medical Assistant students to the clinical procedures performed in the medical office setting. Students perform basic examining room skills, including screening, vital signs, patient history, minor surgery, and patient preparation for routine and specialty exams in the ambulatory care setting. Lab, Lecture. Credits: 4. 3150930200 Human Body in Health and Disease (C or better) (concurrent enrollment is allowed)

31-509-305-00 Med Asst Lab Procedures 2
Prepares students to perform laboratory procedures commonly performed in the ambulatory care setting under the supervision of a physician. Students perform phlebotomy, immunology, hematology, and chemistry laboratory procedures. Lab, Lecture. Credits: 2. Prerequisite(s): 3150930300 Medical Asst Lab

Procedures 1 (C or better).

31-509-306-00 Med Asst Clin Procedures 2
Prepares Medical Assistant students to perform patient care skills in the medical office setting. Students perform clinical procedures including administering medications, assisting with minor surgery, performing an electrocardiogram, assisting with respiratory testing, educating patients/ community, and maintaining clinical equipment in an ambulatory care setting. Lab, Lecture. Credits: 3. Prerequisite(s): 3150930400 Medical Asst Clin Procedures 1 (C or better) and 3150930300 Medical Asst Lab Procedures 1 (C or better).

31-509-307-00 Medical Office Insurance and Finance
Introduces Medical Assistant students to health insurance and finance in the medical office. Students perform bookkeeping procedures, apply managed care guidelines, and complete insurance claim forms. Students use medical coding and managed care terminology to perform insurance-related duties. Lab, Lecture. Credits: 2. 1050110700 Digital Literacy for Healthcare (C or better) and 3150930100 Medical Asst Admin Procedures (C or better)

31-509-309-00 Medical Law Ethics and Professionalism
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 records, perform risk management procedures, and examine legal and bioethical issues. Lecture. Credits: 2.

31-509-310-00 Medical Assistant Practicum
Requires Medical Assistant students to integrate and apply knowledge and skills from all previous Medical Assistant courses in actual patient care settings. Learners perform administrative, clinical, and laboratory duties under the supervision of trained mentors to effectively transition to the role of a medical assistant. Occupational. Credits: 3. Prerequisite(s): (1050110400 Culture of Healthcare (C or better) or 1080119500 Written Communication (C or better)) and 3150930500 Med Asst Lab Procedures 2 (C or better) (concurrent enrollment is allowed) and 3150930600 Med Asst Clin Procedures 2 (C or better) (concurrent enrollment is allowed) and 3150930700 Medical Office Insurance and Finance (C or better) (concurrent enrollment is allowed) and 3150930900 Medical Law Ethics and Professionalism (C or better) (concurrent enrollment is allowed).

Medical Terminology (501)

10-501-101-00 Medical Terminology
Focuses on the component parts of medical terms: prefixes, suffixes and word roots. You will 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. Lecture. Credits: 3.

10-501-104-00 Culture of Healthcare
Designed as an introduction to customer service for learners interested in working in various healthcare settings. The learner investigates healthcare systems, safety standards, and the workforce. The learner examines professionalism, interpersonal and written communication skills, and confidentiality as they relate to customer service in healthcare. Lecture. Credits: 2.

10-501-107-00 Digital Literacy for Healthcare
Intro 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. Lab, Lecture. Credits: 2.

Music (805)

20-805-201-00 Music Appreciation
State of the art sound and viewing system will bring to life music of the past and the present. See and hear music from around the world as well as music from the Middle Ages, Renaissance, Baroque, Classical, Romantic, 20th century, and music of today that reflects our more modern society. Music is connected with history, religion, art, architecture, politics and society. Students will learn to identify voices and instruments, and the significance of instrumentation, scoring and arranging. Listen to melody, rhythm, harmony and grouping of sounds to identify periods of music history and their composers. Lecture. Credits: 3.

20-805-205-00 Music Theory I
Entry level music class. Students learn to read music by understanding music notation, music symbols, and vocabulary. Each student will have a keyboard to apply music reading skills. Early childhood education students will also learn how to integrate music into educational and play activities. Lecture. Credits: 3.

20-805-209-00 Music Theory II
Studies of texture in music, voice leading, harmonic progression, the dominant and leading-tone seventh chords, non-dominant seventh chords, modulation, secondary dominants, and two and three-part form. Lecture. Credits: 3. Prerequisite(s): 2080520500 Music Theory I (D- or better).

20-805-280-00 Topics in Music
Pursues advanced or specialized music topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-805-280-01 Music in Film
Follows the development music and sound in film, from the beginning of the silent-movie era to the great film composers of the twentieth century and today. Students will explore the role and expression of music in film, learn about the fundamental elements of film music and composers, as well as develop a vocabulary for describing and assessment film music. Includes classroom discussion, evaluation of different compositional styles, and learning to listen critically to film score while viewing movies. No prior knowledge of music or film history is necessary. Lecture. Credits: 3.

20-805-285-00 Applied Topics in Music
Pursues advanced or specialized applied music topics. Requirements and topics are developed in advance by the instructor. Lab. Credits: 3.

20-805-285-01 Concert Choir
A choral ensemble of mixed voices, both men and women, open to those who enjoy singing. Provides an opportunity to participate in learning and performing choral music. Will include performances at several major campus concerts. The choir will also perform within the Rhinelander community. Repertoire will be of a high-quality, and is chosen to represent a wide range of historical periods and styles. Lab. Credits: 1.

Nursing (510,543)

10-543-101-00 Nursing Fundamentals
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 within alterations in cognition, elimination, comfort, grief/ loss, mobility, integument, and fluid/ electrolyte balance. Lecture. Credits: 2.

10-543-102-00 Nursing Skills
Focuses on development of clinical skills and physical assessment across the lifespan. Includes mathematic calculations and conversions related to clinical skills, blood pressure assessment, aseptic technique, wound care, oxygen administration, tracheotomy care, suctioning, management of enteral tubes, basic medication administration, glucose testing, enemas, ostomy care, and catheterization. In addition, includes techniques related to obtaining a health history and basic physical assessment skills using a body systems approach. Lab. Credits: 3.

10-543-103-00 Nursing Pharmacology
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. Lecture. Credits: 2.

10-543-104-00 Nsg Intro Clinical Practice
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. Clinical. Credits: 2.

10-543-105-00 Nursing Health Alterations

Elaborates upon the basic concepts of health and illness as presented in Nursing Fundamentals. Applies theories of nursing in the care of clients through the lifespan, utilizing problem solving and critical thinking. Provides an opportunity to study conditions affecting different body systems and apply therapeutic nursing interventions. Also introduces the concepts of leadership, team building, and scope of practice. Lecture. Credits: 3. Prerequisite(s): 1054310400 Nsg Intro Clinical Practice (C or better).

10-543-106-00 Nursing Health Promotion
Focuses on topics related to health promotion for individuals and families throughout the lifespan. We will cover nursing care of the developing family, which includes reproductive issues, pregnancy, labor and delivery, postpartum, the newborn, and the child. Recognizing the spectrum of healthy 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. Lecture. Credits: 3. Prerequisite(s): 1054310400 Nsg Intro Clinical Practice (C or better).

10-543-107-00 Nsg Clinical Care Across Lifespan
Clinical experience which 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. Clinical. Credits: 2. Prerequisite(s): 1054310400 Nsg Intro Clinical Practice (C or better).

10-543-108-00 Nsg Intro Clinical Care Mgt
Applies nursing concepts and therapeutic nursing interventions to groups of clients across the lifespan. Provides an introduction to leadership, management, and team building. Clinical. Credits: 2. Prerequisite(s): 1054310400 Nsg Intro Clinical Practice (C or better).

10-543-109-00 Nsg Complex Health Alterations 1
Prepares the learner to expand knowledge from previous courses in caring for clients across the lifespan with alterations in musculoskeletal, cardiovascular, respiratory, endocrine, and hematologic systems as well as clients with fluid/ electrolyte and acid base imbalance, and alterations in comfort. Lecture. Credits: 3. Prerequisite(s): 1054310700 Nsg Clinical Care Across Lifespan (C or better) and 1054310800 Nsg Intro Clinical Care Mgt (C or better).

10-543-110-00 Nsg Mental Health Community Con
Covers 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 are examined in relation to specific types of support offered to racial, ethnic, and economically diverse individuals and groups. Lecture. Credits: 2. Prerequisite(s): 1054310700 Nsg Clinical Care Across Lifespan (C or better) and 1054310800 Nsg Intro Clinical Care Mgt (C or better).

10-543-111-00 Nsg Intermediate Clinical Practice
Intermediate level clinical course develops the RN role when working with clients with complex health care needs. Focuses on developing skills needed for managing multiple clients across the lifespan and priorities. Using the nursing process, students gain experience in adapting nursing practice to meet the needs of clients with diverse needs and backgrounds. Clinical. Credits: 3. Prerequisite(s): 1054311200 Nursing Advanced Skills (C or better) (concurrent enrollment is allowed).

10-543-112-00 Nursing Advanced Skills
Focuses on the development of advanced clinical skills across the lifespan. Includes advanced IV skills, blood product administration, chest tube systems, basic EKG interpretation, and nasogastric/ feeding tube insertion. Lab. Credits: 1. Prerequisite(s): 1054310700 Nsg Clinical Care Across Lifespan (C or better) and 1054310800 Nsg Intro Clinical Care Mgt (C or better).

10-543-113-00 Nsg Complex Health Alterations 2
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 reproductive systems. The learner will also focus on management of care for clients with high-risk prenatal conditions, high-risk newborns, and the ill child. Synthesis and application of previously learned concepts will be evident in the management on clients with critical/ life threatening situations. Lecture. Credits: 3. Prerequisite(s): 1054311100 Nsg Intermediate Clinical Practice (C or better).

10-543-114-00 Nsg Management Professional Concepts
Covers nursing management and professional issues related to the role of the RN. Emphasis is placed on preparing for the RN practice. Lecture. Credits: 2. Prerequisite(s): 1054311100 Nsg Intermediate Clinical Practice (C or better).

10-543-115-00 Nsg Advanced Clinical Practice
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. Clinical. Credits: 3. Prerequisite(s): 1054311100 Nsg Intermediate Clinical Practice (C or better).

10-543-116-00 Nursing Clinical Transition
Clinical experience which integrates all knowledge learned in the previous courses in transitioning to the role of the graduate nurse. Promotes relatively independent clinical decisions, delegation, and working collaboratively with others to achieve client and organizational outcomes. Continued professional development is fostered. Clinical. Credits: 2. Prerequisite(s): 1054311500 Nsg Advanced Clinical Practice (C or better) (concurrent enrollment is allowed).

10-543-126-00 LPN to RN Bridge
Provides a transitional experience for the LPN seeking an ADN. Clinical, Lab, Lecture. Credits: 3.

10-543-127-00 Transcultural Nursing
Focuses on providing culturally competent nursing care to a multicultural population. Theoretical models and assessment skills are used to examine the diversity of cultural beliefs, values, and practices that impact the health of individuals in society. Emphasis will be placed on general guidelines for providing culturally competent care. Lecture. Credits: 2. Prerequisite(s): 1054310100 Nursing Fundamentals (C or better) (concurrent enrollment is allowed) and 1054310200 Nursing Skills (C or better) (concurrent enrollment is allowed).

10-543-150-00 A Preview of Professional Nursing
Explores the career of nursing as it examines the knowledge, skills, and abilities to be successful in the program and profession. Assists students with information and resources to prepare for completion of the required courses of an ADN. Overview of the nursing theories and roles of the RN. Applies college-success skills to the nursing courses. Lecture. Credits: 2.

Nursing Assistant (510,543)

30-510-305-00 Medication Assistant
Consists of 68 hours of classroom and lab followed by 40 hours of clinical training in the long term care environment. Designed for certified nursing assistants that are currently active on the State of Wisconsin Nurse Aide Registry, and who are currently working in long term care. Upon successful completion, participants will have their name placed on the Wisconsin Nurse Aide Registry. Clinical, Lecture. Credits: 3.

30-543-300-00 Nursing Assistant
Provides theory, laboratory practice, and clinical experience for employment as an entry level nursing assistant in a health care facility. Approved by the Wisconsin Department of Health and Family Services. Clinical, Lab, Lecture. Credits: 3.

31-543-325-00 Personal Care Worker
This course emphasizes aspects of providing personal and supportive/ rehabilitative in-home and facility based health care including client's rights, communication, rehabilitation, positioning and transfer skills, infection control, and safety. This is a 72 hour in person course combining lecture with laboratory practice of learned skills. All skill competencies will be assessed under the guidance of a registered nurse. Lab, Lecture. Credits: 2.

Office Technology (106,107)

10-106-112-00 Customer Service for Business

This course is intended to teach learners to identify internal/ external customers, develop verbal, nonverbal, and listening communication skills, develop problem-solving techniques, and ways of adding value to a customer interaction. Students will develop the ability to lead and expand the customer service process, learn techniques for dealing with unhappy customers, and build skills for analyzing and prioritizing customer needs. Students will learn to use the telephone effectively and efficiently in the world of work, telephone etiquette, messaging, and voice mail. Lecture. Credits: 1.

10-106-113-00 Electronic Communications
Learners will identify the importance of using electronic communication tools to help organize and manage communications, contacts, schedules, calendars, tasks, and perform basic customizations of the electronic communication software. Ethical and appropriate use electronic communication is included. Software such as MS Outlook may be explored. Students will apply these techniques with hands on activities. Lecture. Credits: 1.

10-106-114-00 Records Management
This course explores the comprehensive field of records management by applying basic principles and procedures for storing and retrieving information and maintaining an efficient manual and/ or computerized filing system using the simplified filing rules developed by the Association of Records Managers and Administrators, Inc. (ARMA). The following methods of storing records are studied: alphabetic, subject, numeric, and geographic. Basic terminology of records management is taught throughout the course. Records retention, disaster planning, control measurements, information security, and disposition are discussed. Lecture. Credits: 1.

10-106-116-00 Document Processing
Enhances keyboarding skills and develops basic document formatting techniques. Lab, Lecture. Credits: 3.

10-106-125-00 Workplace Communications
Develops basic business skills of telephone, voice mail, e-mail, calendaring, and filing. Lab, Lecture. Credits: 2.

10-106-126-00 Editing Business Applications
Covers proofreading and editing of business documents. Transcription and composition will be used to process business documents. Lab, Lecture. Credits: 3.

10-106-127-00 Meeting and Event Planning
This course focuses on preparing the learner to effectively plan a successful meeting or event. Topics include project management and coordination techniques, conducting the planning activities, managing the finances, facilitating on-site needs, arranging travel and transportation needs, preparing agendas and minutes, and conducting follow-up activities while communicating effectively with all stakeholders. Lecture. Credits: 3.

10-106-130-00 Integrated Computer Applications Beg
Uses word processing, spreadsheet, database, and presentation software to create and integrate basic application documents for professional and personal use. Lab, Lecture. Credits: 4.

10-106-131-00 Integrated Computer Applications Intermediate
Integrates software applications (word processing, spreadsheet, database, and presentations) to enhance and customize documents. The course includes creation of basic interactive components. Lab, Lecture. Credits: 4. Prerequisite(s): 1010613000 Integrated Computer Applications Beg (C or better).

10-106-132-00 Integrated Computer Applications Advanced
Covers the creation and administration of interactive, fully-integrated software application processes (word processing, spreadsheet, database, and presentations) for individual and group use. Lab, Lecture. Credits: 4. Prerequisite(s): 1010613100 Integrated Computer Applications Int (C or better).

10-106-133-00 Business Office Technologies
This course will introduce students to current and emerging technologies and applications used by office professionals. Students will research current and emerging technologies such as smart phones, scanners, fax, copy machines, social networking tools, conferencing tools, Cloud-based applications, collaboration tools, survey tools, PDF document options, and technology security. Lecture. Credits: 2.

10-106-151-00 Career Management I
Teaches students to identify work environment preferences, develop a personal profile for career success, and begin a support system network for employment. Lecture. Credits: 1.

10-106-152-00 Career Management II
Teaches students to develop job search techniques and create a professional image. Emphasis will be on preparation of a resume, a letter of application, and interviewing techniques. Lecture. Credits: 1.

10-106-170-00 Administrative Procedures
Develops professional skills and attitudes for today's global business environment. Develops office skills in telecommunications, mail processing, travel arrangements and conferences, public relations, and ergonomics. Lab, Lecture. Credits: 3. Prerequisite(s): 1010611600 Document Processing (C or better) and 1010613000 Integrated Computer Applications Beg (C or better).

10-106-175-00 Project Management
Students will learn the tools and techniques of project management. The student will become familiar with the five process groups of project management and will gain experience in applying the nine knowledge areas of project management. Lecture. Credits: 3.

10-106-190-00 Administrative Assistant Internship
Applies previously learned administrative assistant skills in a real work setting. This is a culminating course for the Administrative Assistant program. Occupational. Credits: 3. Prerequisite(s): 1010617000 Administrative Procedures (C or better).

10-107-162-00 Microcomputer Support
Provides the technical skills necessary to install and configure computer hardware components. The students will also learn to troubleshoot basic computer hardware problems and correct them. The students learn to use manuals and software for troubleshooting and upgrading hardware, and the internet for software driver upgrades and technical support. Students learn to install and upgrade operating systems and various application software. Lab, Lecture. Credits: 2.

Philosophy (809)

10-809-166-00 Intro to Ethics Theory and Application
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. Lecture. Credits: 3.

20-809-217-00 Intro to Philosophy
Introduces fields of philosophy, philosophical reasoning, and the history of philosophy. Developed the ability to think, speak, argue, and write critically about complex and general issues. Topics vary and may include cross-cultural philosophies, epistemology, metaphysics, ethics, logic and critical reasoning, as well as clarification about the roles and philosophy, religion, and science. Lecture. Credits: 3.

20-809-220-00 Topics in Philosophy
Pursues advanced or specialized philosophy topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-809-220-03 Philosophy of Religion
This course surveys several problems of Western theology and examines them from a variety of philosophical perspectives. Major topics include arguments pertaining to God's existence and nature, the relationship between faith and reason, and problem of evil. Class readings will focus on classical formulations and solutions to these traditional problems. Because philosophy is not merely an intellectual exercise, students will be encouraged to contribute their own voices and experiences to these ongoing matters of faith, reason, and religion. Lecture. Credits: 3.

20-809-220-04 Problems in Communication Technology and Digital Media

This course will explore the ethical, practical, and social impact of problems raised by new communication technology and digital media, focusing specifically on intellectual property. Lecture. Credits: 3.

20-809-225-00 Ethics
Examines concepts of obligation, morality, human rights, and the good life. Competing ethical theories will be explored along with contemporary and historical moral problems. Lecture. Credits: 3.

20-809-226-00 Environmental Ethics
An introduction to environmental ethics for students who have had little or no exposure to the philosophical issues surrounding the problems of nature. Some of the problems to be discussed are: endangered species, energy and pollution, wilderness, environmental justice, world hunger, immigration and overpopulation, animal rights, and corporate obligations regarding the natural environment. Covers both theoretical approaches and practical applications, and provides a detailed history and background of the roots and development of our present ecological situation. Lecture. Credits: 3.

Physical Education (807)

20-807-201-00 Fitness for Life
Examines the relationship of physical fitness and activity to healthy lifestyles and wellness. Students plan and implement a personal fitness and nutrition program. Lecture. Credits: 2.

20-807-205-00 Topics in Health and Physical Education
Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lab, Lecture. Credits: 2.

20-807-205-02 Self Defense for Women
Students learn practical and readily usable self-defense techniques. Students apply situational awareness, determine options, and implement a self-defense strategy. Strategies include avoidance, assertiveness, verbal skills, safety practices, and physical techniques. Physical techniques include strikes to target points, blocks, ground defense, escape moves, key chains or other everyday objects as weapons, and defense in specific locations such as cars and stairwells. Students learn viable options for all ages and levels of physical activity. Through repetition, students develop greater body awareness, preparedness, and physical condition. Students practice realistic scenarios and explore issues of societal violence such as sexual assault and domestic violence. Course sections are offered for women or men only. Lab, Lecture. Credits: 2.

20-807-213-00 First Aid and CPR
Learn principles and practices of first aid, cardiopulmonary resuscitation and automated external defibrillator use. Students apply first aid, CPR, and AED applications to home, work, recreation, and remote settings. Completers received American Heart Association (AHA) Basic Life Support (BLS) for Healthcare Providers certification and the AHA First Aid Certificate. Lecture. Credits: 2.

20-807-221-00 Canoeing
Acquaints students with the basic knowledge and skills necessary to enjoy and actively participate in the lifetime sport of canoeing. Includes lake and river canoeing. Lab. Credits: 1.

20-807-235-00 Principles of Strength Training
Enables students to develop and participate in an appropriate resistance exercise program using free weights, weight machines, and floor exercise. Lab, Lecture. Credits: 2.

Pipefitting (435)

50-435-540-00 Green Awareness
Green Awareness for the MMMP Trades examines how green projects and sustainable manufacturing initiatives relate to energy efficiency, energy consumption, waste reduction, and changing work processes for the MMMP related trades. Priorities related to cost awareness, energy efficiency, predictive and preventative maintenance, new materials, bearing maintenance, and precision laser alignment are included in this course. Lab, Lecture. Credits: 2.

50-435-709-00 Orientation to the Trade and Safety for Industrial Pipefitters
Course competencies examine safe work practices involved in pipe fitting trades and various industrial settings. Rigging safety, PPE, confined space entry, fall protection, heavy equipment operation, chemical safety and MSDS, boiler safety, and lockout tag-out will be examined. Fall protection, and safe work practices for overhead work, and ladders are covered. OSHA and other safety standards will be reviewed. The course wraps up with an introduction to the trade where apprentices will examine job duties and tasks which have been identified for the industrial pipefitting apprenticeship. Lecture. Credits: 0.50.

50-435-710-00 Blueprint Reading 1 for Industrial Pipefitter Apprentices
Course competencies include an introduction to industrial blueprints; building freehand sketching skills; drawing symbols, lines, and pipe fittings; and interpreting technical information found on blueprints. Apprentices will learn how prints support work processes performed by the pipefitting trade. Lecture. Credits: 0.50.

50-435-711-00 Trade Math for Industrial Pipefitter Apprentices
Course competencies include building apprentice skills working with fractions, decimals, measurement and ratios commonly used by the trade. Measurement, tolerances and interpreting trade related information will help apply math concepts to industrial work processes. Basic algebra, geometry and trigonometry will be applied to industrial pipefitting tasks. Lecture. Credits: 1.

50-435-712-00 Related Science for Industrial Pipefitter Apprentices
Course competencies include the science of matter; properties of solids, liquids and gases; work, energy and power; temperature and heat effects; change of state; heat engines; and force balance and gravity. A field trip to observe related science applications in a plant is included. Related science concepts included in this course will be reinforced and applied later in related instruction. Lecture. Credits: 2.

50-435-713-00 Blueprint Reading 2 for Industrial Pipefitter Apprentices
Course competencies include pipe and pipe fitting blueprint symbols and other technical information found on pipe prints. Apprentices will examine isometric and multi-view drawings; dimensions; and process pipe drawings symbols. Drawing and sketching skills will be further developed. Lecture. Credits: 0.50.

50-435-714-00 Process Piping 1 for Industrial Pipefitter Apprentices
Course competencies include examining the metallurgical properties of various piping materials, applying piping materials to process pipe installations, fabricating piping offsets, calculating values needed to solve pipe layout and fabrication problems associated with pipe welding layouts, comparing clamps and aligning devices employed by the trade, and fabricating miters, tees, saddles, laterals, and elbows. Lecture. Credits: 1.

50-435-715-00 Steam Systems for Industrial Pipefitter Apprentices
Course competencies include steam trapping, boiler accessories, boiler valves, steam heating, steam systems, and high pressure steam. Course includes a field trip to examine steam systems applied to an industrial setting. Lecture. Credits: 2.

50-435-716-00 Blueprint Reading 3 for Industrial Pipefitter Apprentices
Course competencies include identifying piping isometrics and dimensions found on flow diagrams, elevation drawings, section views, and process piping plans. Apprentices will further develop skills in sketching and drawing as well as interpreting information from flow diagrams, pipe drawings, and related industrial prints. Apprentices will learn to use prints and diagrams to interpret information about given runs of pipe. Lecture. Credits: 0.50.

50-435-717-00 Chemical Handling and Hazardous Materials for Industrial Pipefitter Apprentices
Course competencies include safety in handling chemicals, chlorine, caustic soda and other hazardous materials. MSDS information and related procedures will be applied to industrial situations. Lecture. Credits: 0.50.

50-435-718-00 Refrigeration and Air Conditioning for Industrial Pipefitter Apprentices
Course competencies include refrigeration systems, applications of mechanical refrigeration, refrigeration components, and troubleshooting systems. Lecture. Credits: 0.50.

50-435-719-00 Hot Water Heating Systems for Industrial Pipefitter Apprentices
Course examines hot water heating systems and boilers found in industrial

plants. Course competencies include hot water heating equipment and components, boiler operations and safety, insulation, heat loss, and maintenance. Lecture. Credits: 0.75.

50-435-720-00 Process Piping 2 for Industrial Pipefitter Apprentices
Course competencies include rolling offsets, parallel offsets, layout of pipe intersections, and fabricating and cutting uneven rolling offsets. Course includes a field trip to observe the application of related concepts. Lecture. Credits: 1.

50-435-721-00 Rigging Safety for Industrial Pipefitter Apprentices
Apprentices will compare types of rigging equipment and their uses; determine safe loads, rig and crib loads, and move a load with cranes and hoists. This course is intended for related instruction in the industrial pipefitter apprenticeship. Course competencies examine safe rigging equipment, hardware, equipment, tools, procedures, and safe work practices applicable to industrial settings. Rigging for cranes, forklifts and other industrial power equipment, and hand devices are included. Lecture. Credits: 1.

50-435-722-00 Blueprint Reading 4 for Industrial Pipefitter Apprentices
Course competencies include interpreting information from isometric drawings and spool drawings. Apprentices will learn how to develop material lists from both types of drawings and build skills working with industrial blueprints. Lecture. Credits: 0.50.

50-435-723-00 Hydraulics for Industrial Pipefitter Apprentices
Gain knowledge of the uses and applications of hydraulics required in the trade. Hydraulic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included. Course competencies examine hydraulic fluids, safety, hydraulic equipment and components, controls, troubleshooting, repair, and preventative maintenance. Lecture. Credits: 1.

50-435-724-00 Welding and Brazing for Industrial Pipefitter Apprentices
Course compares common welding processes and develops apprentice skills related to welding, cutting, heating and using oxy-gas. Welding with arc, MIG and TIG will be explored. Common cutting and joining techniques will be compared. Industrial brazing techniques will be demonstrated. Joint preparation, using hand and power tools, and working with low-temp and high-temp solders are examined. Welding safety and PPE requirements will be reinforced. Lecture. Credits: 1.

50-435-725-00 Valves Packings and Gaskets for Industrial Pipefitter Apprentices
Course includes an examination of the various types of valves and their applications in industrial plant processes. Apprentices will also compare gasket types, materials and their applications. Valve packings will be compared and procedures for repacking valves examined. Apprentices will build skills installing and repairing valves. Lecture. Credits: 0.25.

50-435-726-00 Pneumatics for Industrial Pipefitter Apprentices
Gain knowledge of the uses and applications of pneumatics required in the trade. Pneumatic systems, devices and components will be examined. Job duties and tasks related to safety, inspection, testing, maintenance and repair will be included. Lecture. Credits: 1.

Plumbing (427)

50-427-569-00 Plumbing Repair
Designed to provide apprentices with the academic and hands-on experience needed to perform plumbing service and repair tasks. Emphasis is placed on the safe and responsible use of tools and equipment. Topics include clogged drains, garbage disposers, water treatment equipment, water closets, urinals, flush valves, cold weather plumbing problems, water systems, and pumps and facets. Lecture. Credits: 1.

50-427-751-00 Sanitary Drains 1
Plumbing related instruction of sanitary drain systems. Course includes a review of codes and trade practices related to sanitary drains, drainage systems, components, and applications. Lecture. Credits: 2.

50-427-752-00 Vents and Venting Systems
Designed to provide the apprentice with the skills to identify and design sanitary vent piping in a plumbing system in accordance with the Wisconsin Plumbing Code. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Lecture. Credits: 2.

50-427-753-00 Water Distribution 1
Provides the apprentice with the skills to identify, design, install, and service various applications for water supply systems listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Topics will include commercial to single-family and private well pump systems. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Lecture. Credits: 2.

50-427-754-00 Water Distribution 2
Provides the apprentice with the skills to identify, design, install, and service cross connection controls, water treatment equipment and multi-purpose piping systems in various plumbing systems in accordance with the Wisconsin Plumbing Code. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Lecture. Credits: 2.

50-427-755-00 Sanitary Drains 2
Provides the apprentice with the skills to identify, design, install, and service various applications for storm water, clear water, and drainage systems. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Lecture. Credits: 2.

50-427-756-00 Private Onsite Wastewater Treatment Sys
Provides the apprentice with the skills to identify, design, install, and service various applications for private on-site wastewater treatment systems that are listed in plumbing codes or individual component manuals. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. Other topics will include pretreatment, soil evaluation, site planning, and new technologies. Focuses on theory, work experience, and the application of plumbing code principles through discussions, drawing exercises, work sheets, and evaluations. Lecture. Credits: 2.

50-427-757-00 Green Plumbing Applications
Provides Plumbing apprentices with an introduction to green applications and prepares students to take certification exams: Union Programs: UA Green Awareness Certification (geared toward journey workers, not apprenticeship) WTCS Programs: Green Plumbers USA Certification Program Learning materials from both certificate programs have been incorporated. Lecture. Credits: 2.

50-427-758-00 Plumbing Advanced Topics TSA
Provides the apprentice with the opportunity to select and complete an applied plumbing project in collaboration with the instructor. Projects will apply the skills required to identify, design, install, and service various plumbing applications that are listed in plumbing codes. Apprentices will use the code language and tables to in various plumbing systems in accordance with the Wisconsin Plumbing Code. The course builds upon the theory, work experience, and the application of plumbing code principles addressed in previous coursework to support completing an applied hands-on project. Lecture. Credits: 2. Prerequisite(s): 5042775100 Sanitary Drains 1 (C or better) and 5042775200 Vents and Venting Systems (C or better) and 5042775300 Water Distribution 1 (C or better) and 5042775400 Water Distribution 2 (C or better) and 5042775500 Sanitary Drains 2 (C or better) and 5042775600 Private Onsite Wastewater Treatment Sys (C or better) and 5042775700 Green Plumbing Applications (C or better).

PreparatoryCourses (851,854,856,858)

77-854-780-00 Principles of College Math
Prepares the new or returning student to succeed in college math courses. Emphasizes eliminating math anxiety; computing whole numbers, fractions, decimals, and percent; solving word problems; and introducing basic algebra and geometry problems. Lecture. Credits: 2. Accuplacer Arithmetic score >= 34 or TABE Math Comp score >= 7 or Tailwind Math Math Fund score >= 15

77-856-780-00 Principles of College Science
Prepares the new or returning student to succeed in college science courses.

Emphasizes metric-English conversions; chemistry topics; cell structure and function; and introduction to human body tissues, organs, and systems. Lecture. Credits: 2.

Psychology (809)

10-809-159-00 Abnormal Psychology
This course in Abnormal Psychology 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. Lecture. Credits: 3. Prerequisite(s): 1080919800 Intro to Psychology (C or better).

10-809-188-00 Developmental Psychology
Study of human development throughout the lifespan. 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 an increased knowledge and understanding of themselves and others. Lecture. Credits: 3.

10-809-198-00 Introduction to Psychology
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. It directs the student to an insightful understanding of the complexities of human relationships in personal, social, and vocational settings. Lecture. Credits: 3.

10-809-199-00 Psychology of Human Relations
Focuses on improving personal and job-related relationships through understanding and applying sound psychological principles. Topics include self-concept, motivation, emotions, stress management, conflict resolution, and human relation processes. Lecture. Credits: 3.

10-809-199-C01 Psychology of Human Relations A
Students will examine the stress in their own life and analyze how their own stress affects and impacts their personal life and professional performance. Application of stress reduction methods and stress management techniques will be incorporated. Lecture. Credits: 0.50.

10-809-199-C02 Psychology of Human Relations B
Students will complete a case study analyzing a relationship conflict. Students will identify the functional and dysfunctional behaviors described in the case study. Students will identify potential psychological issues and behaviors of the individuals described in the case study and indicate how those behaviors/ issues are involved in the conflict. Students will identify appropriate problem-solving techniques for the situations. Lecture. Credits: 0.50. Prerequisite(s): 10809199C01 Psychology of Human Relations A (B or better) (concurrent enrollment is allowed).

10-809-199-C03 Psychology of Human Relations C
Students will conduct an internet search for a successful business group, professional group, team, or organization. Students will identify the group's social dynamics and how the group resolves conflict as well as what behaviors are employed that aid in the group's success. Lecture. Credits: 1. Prerequisite(s): (10809199C01 Psychology of Human Relations A (B or better) (concurrent enrollment is allowed) and 10809199C02 Psychology of Human Relations B (B or better)) (concurrent enrollment is allowed).

10-809-199-C04 Psychology of Human Relations D
Students will identify current and long-term personal and professional goals. Students will describe a plan of accomplishing their goals via analysis of their own personality, motivation, and self-efficacy. Students will identify personal strengths and weaknesses as well as a plan to overcome those factors in order to reach goals. Lecture. Credits: 1. Prerequisite(s): (10809199C01 Psychology of Human Relations A (B or better) (concurrent enrollment is allowed) and 10809199C02 Psychology of Human Relations B (B or better) (concurrent enrollment is allowed) and 10809199C03 Psychology of Human Relations C (B or better)) (concurrent enrollment is allowed).

20-809-232-00 Abnormal Psychology
Introduces students to the essential features and etiology of various psychological disorders. Students are also introduced to contemporary methods of assessment and treatment using the diagnostic system of the DSM-ITV-TR, and to ways of thinking critically about the diagnosis of psychological disorders from both historical and contemporary perspectives, including socio-cultural considerations of mental illness. Lecture. Credits: 3. Prerequisite(s): 2080925100 Introduction to Psychology (C or better).

20-809-250-00 Living with Death
Offers a personal and practical introduction to death awareness founded on the premise that living is incomplete without a full and realistic appraisal of our own dying and of the deaths of those for whom we care. Lecture. Credits: 3.

20-809-251-00 Introduction to Psychology
Surveys the methods, principles, and theories of psychology as they are applied to understanding, predicting, and modifying human behavior. Essential theoretical perspectives, including cognitive, humanistic, socio-cultural, psychodynamic, learning, and biological/ evolutionary inform an understanding of key topics in psychology, among which may include the brain and behavior, development, emotion, memory, motivation, personality, psychological disorders, sensation and perception, thinking, and intelligence. Upon completion, students will be well prepared for more advanced study in the field of contemporary psychology. Lecture. Credits: 3.

20-809-252-00 Developmental Psychology
Study of human development throughout the lifespan. 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 an increased knowledge and understanding of themselves and others. Lecture. Credits: 3.

20-809-254-00 Educational Psychology
Explores the psychological theories of development and learning related to education and teaching. Covers the unique diversity of students that we teach as well as exceptionalities. Students examine learning theory and instructional practice as well as issues of motivation and classroom management. Classroom planning and assessment methods and techniques are evaluated. Lecture. Credits: 3. Prerequisite(s): 2080925100 Introduction to Psychology (D- or better).

20-809-255-00 Child Psychology
Covers human development and behavior from conception through adolescence, with emphasis on both theories and applications in parenting and other adult-child settings. General Psychology is advised. Lecture. Credits: 3.

20-809-265-00 Topics in Psychology
Pursues advanced or specialized psychology topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

31-809-350-00 Customer Relations
Focuses on building good working relationships within the professional environment. Case studies and role playing will give students preparation for customer relations work. Lecture. Credits: 1.

Renewable Energy-Foundations (480)

10-480-100-00 Alternative Energy Overview
Investigate the need for renewable energy systems and emerging careers in renewable energy. Students will examine the basic design, cost, and other considerations associated with photovoltaic, wind, and biogas electrical generation systems. In addition, students will evaluate the basic design, costs, truths and myths associated with solar thermal, geothermal, and biomass heating and cooling systems. Students will also explore the production and use of alternative transportation fuels. Lecture. Credits: 2.

Science (806)

10-806-112-00 Principles of Sustainability
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. Lecture. Credits: 3.

10-806-137-00 Comprehensive Tech Physics
The areas of mechanics, heat, electricity, magnetism, and optics are covered through lecture, demonstration, and laboratory work. Empirical relationships are emphasized, incorporating mathematical prerequisites. Lab, Lecture. Credits: 4. Prerequisite(s): 1080410700 College Mathematics (D- or better).

10-806-139-00 Survey of Physics
Emphasizes understanding basic physics concepts through laboratory investigation and applications. Topics include kinematics, dynamics, work, energy, power, temperature, heat, waves, electricity, magnetism, electromagnetic waves, optics, and atomic and nuclear physics. Lab, Lecture. Credits: 3.

10-806-139-01 Survey of Physics Lab
One credit enhancement for Survey of Physics to cover all competencies of General Physics 1. This course focuses on rotational kinematics. Lab. Credits: 1.

10-806-154-00 General Physics 1
Studies basic concepts of physics and how they directly affect the lives of students. Students will analyze motion, forces causing motion, related energies, heat, and sound. Lab, Lecture. Credits: 4.

10-806-160-00 Geographic Information Systems
Includes application of map layers and attribute tables, mapping basics, map design, chloropleth maps, pin (point) maps, hyperlinks, data sources, entry, editing, metadata, GIS outputs (print layouts, custom templates, reports, graphs), geodatabases, importing spatial and attribute data, map projections, vector spatial data formats, and data export. Lecture. Credits: 3.

10-806-161-00 Introduction to Geospatial Technologies
Introduces several geospatial technologies - Google Earth, GIS, air photo interpretation, with an emphasis on hands-on application of theoretical concepts concerning spatial interaction. Lecture. Credits: 3.

10-806-165-00 Physical Geography Landforms
Introduction to landforms: their origin, classification, and distribution on the earth's surface. Lab, Lecture. Credits: 4.

10-806-177-00 General Anatomy and Physiology
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. Lab, Lecture. Credits: 4. Prerequisite(s): 1083613300 Prep for Basic Chemistry (C or better) or 2080624000 Survey of Chemistry (C or better).

10-806-179-00 Advanced Anatomy and Physiology
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. 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. Lab, Lecture. Credits: 4. Prerequisite(s): 1080617700 General Anatomy and Physiology (C or better).

10-806-186-00 Intro to Biochemistry
Provides students with the skills and knowledge of organic and biological chemistry necessary for application with 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. Lab, Lecture. Credits: 4.

10-806-197-00 Microbiology
Examines microbial structure, metabolism, genetics, growth, and the relationship between humans and microorganisms. Addresses disease production, epidemiology, host defense mechanisms, and the medical impact of microbes. Examines the role and microbes in the environment, industry, and biotechnology. Lab, Lecture. Credits: 4. Prerequisite(s): 1080617700 General Anatomy and Physiology (C or better).

10-806-197-01 Microbiology Lab
Provides students with the lab learning experience related to the Microbiology lecture course. Lab, Lecture. Credits: 4.

10-806-198-00 Human Biology
This is an introductory course that emphasizes the structure of the human body and the functional interrelationships of the body's systems. Consideration is given to the human body and disease, human genetics, human ecology, and the role that humans play in the environment. The course consists of 3 hours of lecture and 2 hours of lab per week. Note: This course does not meet requirements for or substitute for General Anatomy and Physiology. Lab, Lecture. Credits: 4.

20-806-201-00 Principles of Biology
Introduces the biological principles common to plants and animals. Emphasizes preparing for subsequent biology courses and understanding the health, ecological, and environmental issues facing our society. Lab, Lecture. Credits: 4.

20-806-205-00 Topics in Biology
Pursues advanced or specialized applied biology topics. Requirements and topics are developed in advance by the instructor. Lecture. Credits: 3.

20-806-207-00 Physical Geography Landforms
Introduces landforms: their origin, classification, and distribution on the earth's surface. Field trip required. Lab, Lecture. Credits: 4.

20-806-208-00 Physical Geography Weather and Climate
Studies the elements of weather, weather forecasting, and distribution of the earth's surface. Lab, Lecture. Credits: 4.

20-806-209-00 General Botany
Survey of plant science, covering morphology, life cycles, taxonomy, ecology, physiology of bacteria, algae, fungi , and non-flowering and flowering plants. Previous college biology course or equivalent recommended. Lab, Lecture. Credits: 5.

20-806-210-00 General Ecology
Covers organism/ environment interrelationships, including human impacts and changes. Discusses evolution, ecological processes, species interactions, communities, and local ecosystems. Designed for those interested in natural resources. Lab, Lecture. Credits: 4.

20-806-211-00 Introduction to Soil and Water Resources
Integrated concepts of soil and water resources at the landscape level. Physical, chemical, and biological interactions relating to watershed processes and response to land use and management. Lab, Lecture. Credits: 4.

20-806-212-00 Geographic Information Systems
Includes working with map layers and attribute tables, mapping basics, map design, chloropleth maps, pin (point) maps, hyperlinks, data sources, entry, editing, metadata, GIS outputs (print layouts, custom templates, report, graphs), geodatabases, importing spatial and attribute data, map projections, vector spatial data formats, and export data. Additional topics include photos and satellite images, digitizing new features, spatially adjusting vector data, table manipulation, geocoding, basics of spatial analysis, vector and raster data analysis, spatial data processing, terrain models, spatial analysis, optimal routing and location, and site selection. Special project development analysis: Capstone Project. Explores the creation of a model of a problem, gathering data, use spatial analysis tools to edit and manipulate data, solving the problem, and creating a layout of the solution with a map, chart, and table. Lecture. Credits: 3.

20-806-213-00 General Zoology
Survey of animal science, covering structure, function, life histories, ecology, and classification of major invertebrate and vertebrate groups. Lab, Lecture. Credits: 5.

20-806-215-00 Environmental Science
Develops an understanding of environmental concerns and current issues including water resources, total land use, air pollution, biocides, energy use, population, pollution, and health. Examines, ecological, economic, historical, and philosophic views of issues. Lecture. Credits: 3.

20-806-230-00 Physical Geology
Introduces the student to the composition and structure of the earth, the processes and systems that produce earth's features, and provides a better understanding of why the earth's features are constantly changing. Provides a hands-on examination of topographic and geologic maps, earth processes, and identification of rocks and minerals. Lab, Lecture. Credits: 4.

20-806-231-00 Historical Geology
Examines earth history through three main themes: plate tectonics, organic evolution, and geologic time. Students will come to understand that the dynamic history of the earth, and the complex interaction between the evolution of life and the evolution of the earth. Students develop a new understanding of the fantastic interactions that have resulted in earth's current state. Students will learn the principles of historical geology and how these principles are applied to unraveling earth's biologic and geologic history. Lab, Lecture. Credits: 4.

20-806-232-00 Intro to Forestry Fisheries and Wildlife
Integrates principles of managing forests, fisheries, and wildlife. Focus will be on maintaining ecosystem integrity while meeting human needs for goods and services. Lab, Lecture. Credits: 4.

20-806-234-00 Introduction to Environmental Study and Education
Lecture and discussion sections of the course explore an overview of K-12 environmental education content and methods: the natural, social, and economic factors that influence the quality of our environment; ecological relationships and principles; the compounding factors of population growth, pollution, resource allocation and depletion, conservation, technology, and urban/ rural planning; along with potential solutions to environmental issues through education, public participation, and thoughtful lifestyle changes. This course fulfills the WI teacher certification environmental education requirement for pre-service teachers. Clinical, Lecture. Credits: 4.

20-806-235-00 Topics in Geology
Pursues advanced or specialized geology topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, Requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-806-240-00 Survey of Chemistry
Introduces aspects of chemistry that are important for the life sciences, including the study of biochemical processes using atomic theories, structure-reactivity relationships, and thermodynamics. Lecture. Credits: 3.

20-806-241-00 Introductory Chemistry
Deals with the composition, characteristics, and changes of atoms and molecules. A laboratory based course, designed specifically for liberal arts students. Lab, Lecture. Credits: 5.

20-806-245-00 College Chemistry I
First semester of a two-semester sequence in general college chemistry which includes the topics of measurement, chemical nomenclature, chemical reactions and stoichiometry, atomic structure, gas laws, thermochemistry, chemical bonding, and solution chemistry. Laboratory work assists in understanding chemical concepts and developing problem-solving skills. Lab, Lecture. Credits: 5. Prerequisite(s): 2080422000 Intermediate Algebra (C or better) or 2080425000 Quantitative Reasoning (C or better).

20-806-249-00 College Chemistry II
A continuation of 20-806-245. This course includes applications of principles to and mathematical treatment of the topics of kinetics, equilibrium, thermodynamics, electrochemistry, coordination compounds, nuclear chemistry, organic structures, and nomenclature. Lab, Lecture. Credits: 5. Prerequisite(s): 2080624500 College Chemistry I (D- or better).

20-806-276-00 College Physics I
First semester course of a one-year introductory algebra-based college physics sequence. Appropriate for students wishing to pursue a program of study in the liberal arts, general education, life sciences, or pre-professional programs. Develops a conceptual understanding of the basics of physics and provides practical hands-on laboratory experiences to broaden the understanding of physics and the scientific method. Covers the properties of motion, force, energy, momentum, rotation, fluids, heat, and sound. Stresses developing good problem-solving strategies. Lab, Lecture. Credits: 4. Prerequisite(s): 2080422000 Intermediate Algebra (D- or better) or 2080425000 Quantitative Reasoning (C or better).

20-806-280-00 College Physics II
Second semester course of a one-year introductory algebra-based college physics sequence. Appropriate for students wishing to pursue a program of study in the liberal arts, general education, life sciences, or pre-professional programs. Continues to develop the student's problem solving skills and conceptual understanding of physics through lecture, demonstrations, and practical hands-on laboratory experiences. Topics studied include electricity, magnetism, geometric and physical optics, and the basics of modern physics. Lab, Lecture. Credits: 4. Prerequisite(s): 2080627600 College Physics I (D- or better).

20-806-286-00 College Physics I Calculus Based
First semester course of a one-year introductory calculus-based college physics sequence. Intended for students wishing to pursue a program of study in the natural sciences or engineering fields. Students will develop a conceptual understanding of physics, as they explore the theoretical and experimental treatment of mechanics, material properties, fluids, heat, sound, and wave motion. Critical thinking and sound problem solving skills are stressed. Lab, Lecture. Credits: 5. Prerequisite(s): 2080423600 Calculus and Analytic Geometry I (D- or better) (concurrent enrollment is allowed).

20-806-286-01 College Physics I Calculus Based LAB
The lab portion of College Physics I-Calculus Based. Lab, Lecture. Credits: 5.

20-806-287-00 College Physics II Calculus Based
Second semester course of a one-year introductory calculus-based college physics sequence. Intended for students wishing to pursue a program of study in the natural sciences or engineering fields. Topics covered include electricity, magnetism, electro-magnetic waves, optics, and an introduction to modern physics. Completion of the sequence provides a background for more advanced work in these fields. Lab, Lecture. Credits: 5. Prerequisite(s): 2080628600 College Physics I Calculus Based (D- or better).

20-806-287-01 College Physics II Calculus Based LAB
Lab portion of College Physics II-Calculus Based. Lab, Lecture. Credits: 5.

31-806-355-00 Biology for Cosmetology
Students study basic structures and functions of the human body relevant to the barbering/ cosmetology profession. Studies contamination spread of disease, and precautions to take to protect the clients and practitioners. Lecture. Credits: 1.

31-806-369-00 Basic Physical Science
Studies fundamental physical concepts and systems of measurement involving mechanics, electricity magnetism, heat, light, and sound. Students will apply these concepts to their related fields of study. Lecture. Credits: 2. Prerequisite(s): 3180430200 Applied Technical Mathematics (C or better).

Sociology (809)

10-809-103-00 Think Critically and Creatively
Provides instruction in the realistic and practical methods of thinking which are in high demand in all occupations today. Decision-making, problem-solving, persuasion, creativity, and setting goals and objectives are considered in depth as the student applies specific thinking strategies in a wide variety of situations. Lecture. Credits: 3.

10-809-108-00 Human Cultural Geography
Introduces students to tools which geographers use to observe, describe, and analyze the world in which we live, with special emphasis on cultures, people,

environments, regions, and their interactions. Emphasis is on using Geographic Information Systems (GIS) in a social science setting. Lecture. Credits: 3.

10-809-112-00 Principles of Sustainability
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 communities to promote and implement sustainability. Lecture. Credits: 3.

10-809-172-00 Introduction to Diversity Studies
Introduces learners to the study of diversity from a local to a global environment using a holistic, interdisciplinary approach. Encourages self-exploration and prepares the learner to work in a diverse environment. In addition to an analysis of majority/ minority relations in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability, and religion are explored. Lecture. Credits: 3.

10-809-196-00 Intro to Sociology
Introduces students to the basic concepts of sociology: culture, socialization, social stratification, multiculturalism, and the five institutions, including family, government, economics, religion, and education. Other topics include demography, deviance, technology, environment, social issues, social change, social organization, and workplace issues. Lecture. Credits: 3.

10-809-197-00 Contemporary American Society
Explores the American social and political institutions affecting the individual as a citizen, worker, and participant in various social groups. Topics studied will be flexible and responsive to contemporary issues. Lecture. Credits: 3.

20-809-271-00 Introductory Sociology
Studies of human society, including the individual, culture, society, social inequality, social institutions, and social change in the modern world. Lecture. Credits: 3.

20-809-272-00 Valuing Diversity
Examines the sociology of minorities, race, social class, age, gender, and sexual orientation, with emphasis on common elements among individuals and groups of people. Lecture. Credits: 3.

20-809-275-00 Marriage and Family
Examines marriage and family relationships in current American society: preparation for marriage, potential problem areas, family planning, divorce, and reconstituted family roles. Lecture. Credits: 3.

20-809-277-00 Pluralism for Educators
Analyze and evaluate education in U.S., policy of equal educational opportunity, and impact of class, gender, race, and language differences on teaching and learning. Involves lectures, discussions and presentations for pre-service teacher education students on topics mandated for initial certification programs in Wisconsin. (Wis Admin Rule PI 34.15). Clinical, Lecture. Credits: 3.

20-809-278-00 Topics in Sociology
Pursues advanced or specialized sociology topics in a traditionally structured, independent study or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-809-279-00 Social Problems
Surveys the major social problems confronting America today, including deviant behavior, inequality, and global social problems. Lecture. Credits: 3. Prerequisite(s): 2080927100 Introductory Sociology (C or better).

Speech (810)

20-810-201-00 Fundamentals of Speech
Examines theory and process of communication, the role of speech in self-development, 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. Lecture. Credits: 3.

Theatre (810)

20-810-204-00 Motion Picture Appreciation
Provides an overview of the historical development, emerging styles, basic components, and social importance of the motion picture as an art form. Lecture. Credits: 3.

20-810-213-00 Fundamentals of Acting
Studies basic principles and techniques of acting, including analysis, scene rehearsal, and voice/ body exercises. Lecture. Credits: 3.

20-810-225-00 Topics in Speech Theatre
Pursues advanced or specialized speech or theatre topics in a traditionally structured, independent study, or service-learning format. Depending on the structure, requirements and topics are developed in advance by the instructor or by the student in consultation with the instructor. Lecture. Credits: 3.

20-810-299-00 Theatre Practicum Special Project
Involves participation in two areas of a theatre production. Lecture. Credits: 3.

Welding (421,442)

10-442-112-00 Print Reading for Manufacturing
Develops print interpretation skills needed in metal fabrication. Learners study orthographic projection, dimensioning, welding symbols and bill of materials. Learners apply concepts in hands-on activities, practicing basic layout skills and safe operation of saws, shears and drills. Lab, Lecture. Credits: 4.

10-442-112-C01 Print Interpretation and Weld Symbols
Students will develop print interpretation skills needed in metal fabrication. Learners study prints containing section views, detail views, and weld symbols. Learners apply concepts in hands-on activities, print interpretation skills, calculating dimensions, identifying and interpreting weld symbols. Lecture. Credits: 1.

10-442-112-C02 Print Reading and Sketching
Students will develop print interpretation skills needed in metal fabrication. Learners study orthographic projection, dimensioning, and bill of materials. Learners apply concepts in hands-on activities, practicing basic layout skills and safe operation of saws, shears and drills. Lab, Lecture. Credits: 3. Corequisite(s): 31-804-302-01 Geometry Skills,31-804-302-02 Math Skills.

10-442-113-00 Welding Fabrication Techniques
Expands on skills developed in Weld Print Reading. Learners study groove and projection welding symbols, geometric tolerances, and international prints. Learners apply concepts through individual and group fabrication activities. Lab, Lecture. Credits: 2. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-113-C01 Welding Fabrication Techniques
Expands on skills developed in Print Reading. Learners study groove and projection welding symbols, geometric tolerances, and international prints. Learners apply concepts through individual and group fabrication activities. Lab, Lecture. Credits: 2. Prerequisite(s): (10442162C04 GTAW AWS Testing on Aluminum (B or better) (concurrent enrollment is allowed) and 10442161C02 GTAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442165C01 Welding Metallurgy (B or better) (concurrent enrollment is allowed) and 10442180C01 Solidworks for Welding (B or better) (concurrent enrollment is allowed) and 10442160C02 FCAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442173C01 Thermal Cutting (B or better) (concurrent enrollment is allowed) and 10442158C02 SMAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442163C01 Weld Inspection and Testing (B or better) (concurrent enrollment is allowed) and 10442174C04 GMAW AWS Testing on Aluminum (B or better) (concurrent enrollment is allowed) and 10-442-174-02 GMAW AWS Testing on Stainless Steel (B or better) (concurrent enrollment is allowed) and 10442159C02 GMAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442172C03 Forklift Certification (B or better) (concurrent enrollment is allowed) and 10442172C02 OSHA 10 Certification (B or better) (concurrent enrollment is allowed) and

10442141C01 Robotics and Automated Welding Apps (B or better)) (concurrent enrollment is allowed).

10-442-141-00 Robotics and Automated Welding Applications
Students will practice fundamental concepts of CNC programming by participating in group projects with a welding robot, waterjet cutter, cnc press break and programing the automated saw. Students will gain a manufacturing concept as they follow an assembly through each phase of production, ultimately producing a final product which meets blueprint specifications. Lab, Lecture. Credits: 2. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-141-C01 Robotics and Automated Welding Applications
Students will practice fundamental concepts of CNC programming by participating in group projects with a welding robot, waterjet cutter, cnc press break and programing the automated saw. Students will gain a manufacturing concept as they follow an assembly through each phase of production, ultimately producing a final product which meets blueprint specifications. Lab, Lecture. Credits: 2. Prerequisite(s): (10442162C04 GTAW AWS Testing on Aluminum (B or better) (concurrent enrollment is allowed) and 10442161C02 GTAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442165C01 Welding Metallurgy (B or better) (concurrent enrollment is allowed) and 10442180C01 Solidworks for Welding (B or better) (concurrent enrollment is allowed) and 10442160C02 FCAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442173C01 Thermal Cutting (B or better) (concurrent enrollment is allowed) and 10442158C02 SMAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442163C01 Weld Inspection and Testing (B or better) (concurrent enrollment is allowed) and 10442174C04 GMAW AWS Testing on Aluminum (B or better) (concurrent enrollment is allowed) and 10-442-174-02 GMAW AWS Testing on Stainless Steel (B or better) (concurrent enrollment is allowed) and 10442159C02 GMAW AWS Testing on Carbon Steel (B or better) (concurrent enrollment is allowed) and 10442172C03 Forklift Certification (B or better) (concurrent enrollment is allowed) and 10442172C02 OSHA 10 Certification (B or better)) (concurrent enrollment is allowed).

10-442-158-00 Shielded Metal Arc Welding
Develops skill in shielded metal arc welding. Learners use titania, low hydrogen and cellulose "stick" electrodes to complete fillet and groove welds in all positions. Learners complete a 3G bend test conducted per AWS D1.1 - Structural Steel Code. Lab, Lecture. Credits: 2. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-158-C01 Shielded Metal Arc Welding on Carbon Steel
Students will develop skills in shielded metal arc welding. Learners use 6010 and 7018 "stick" electrodes to complete fillet and groove welds in all positions. Weld quality is assessed per AWS D1.1 Structural Steel Code. Lab, Lecture. Credits: 1. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-158-C02 Shielded Metal Arc Welding AWS Testing on Carbon Steel
Students will perform AWS bend test and AWS entry level fabrication project using the SMAW welding process. Learners will complete these welds and weldments conducted per AWS D1.1- Structural Steel Code. Lab. Credits: 0.50. Prerequisite(s): 10442158C01 SMAW on Carbon Steel (B or better) (concurrent enrollment is allowed).

10-442-159-00 Gas Metal Arc Welding
Develops skill in gas metal arc welding. Learners use the “mig” process in all positions on steel, stainless steel and aluminum. Required welds include fillet and groove welds with short circuit, spray and pulsed spray transfer. Weld quality is assessed per AWS D1.1 Structural Steel Code. Lab, Lecture. Credits: 3. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-159-C01 Gas Metal Arc Welding on Carbon Steel
Students will develop skills in gas metal arc welding. Learners use the “mig” process in all positions on carbon steel. Required welds include fillet and groove welds with short circuit, spray and pulsed spray transfer. Weld quality is assessed per AWS D1.1 Structural Steel Code. Lab, Lecture. Credits: 2. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better)) (concurrent enrollment is allowed).

10-442-159-C02 Gas Metal Arc Welding AWS Testing on Carbon Steel
Students will perform AWS bend test and AWS entry level fabrication project using the GMAW welding process on carbon steel. Learners will complete these welds and weldments conducted per AWS D1.1- Structural Steel Code. Lab. Credits: 1. Prerequisite(s): 10442159C01 GMAW on Carbon Steel (B or better) (concurrent enrollment is allowed).

10-442-160-00 Flux Cored Arc Weld
Develops skill in flux cored arc welding. Learners make fillet and groove welds in all positions on steel. Weld quality is assessed per AWS D1.1 - Structural Steel Code. Required work also includes basic welds with the SAW process and backgouging with the air arc process. Lab, Lecture. Credits: 4. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-160-C01 Flux Cored Arc Welding on Carbon Steel
Students will develop skills in flux core arc welding. Learners use the “FCAW” process in all positions on carbon steel. Required welds include fillet and groove. Weld quality is assessed per AWS D1.1 Structural Steel Code. Lab, Lecture. Credits: 3. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-160-C02 Flux Cored Arc Welding AWS Testing on Carbon Steel
Students will perform AWS bend test and AWS entry level fabrication project using the FCAW welding process on carbon steel. Learners will complete these welds and weldments conducted per AWS D1.1- Structural Steel Code. Lab. Credits: 1. Prerequisite(s): 10442160C01 FCAW on Carbon Steel (B or better) (concurrent enrollment is allowed).

10-442-161-00 Gas Tungsten Arc Welding on Carbon Steel
Develops skills in gas tungsten arc welding. Learners weld carbon steel sheet and plate in the flat, horizontal, and vertical positions. Lab, Lecture. Credits: 3. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-161-C01 Gas Tungsten Arc Welding on Carbon Steel
Students will develop skills in gas Tungsten arc welding. Learners use the “Tig” process in all positions on carbon steel. Required welds include fillet and groove welds. Weld quality is assessed per AWS D1.1 Structural Steel Code. Lab, Lecture. Credits: 2. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-161-C02 Gas Tungsten Arc Welding AWS Testing on Carbon Steel
Students will perform AWS bend test and AWS entry level fabrication project using the GTAW welding process on carbon steel. Learners will complete these welds and weldments conducted per AWS D1.1- Structural Steel Code. Lab. Credits: 1. Prerequisite(s): 10442161C01 GTAW on Carbon Steel (B or better) (concurrent enrollment is allowed).

10-442-162-00 Gas Tungsten Arc Welding on Aluminum and Stainless Steel
Develops skills in gas tungsten arc welding. Learners weld aluminum and stainless steel sheet and plate in the flat, horizontal, and vertical positions. Lab, Lecture. Credits: 2. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-162-C01 Gas Tungsten Arc Welding on Stainless Steel
Students will develop skills in gas tungsten arc welding. Learners use the “tig” process in flat, horizontal, and vertical positions on Stainless Steel. Required welds include fillet and groove welds with gas tungsten arc welding. Weld quality is assessed per AWS standards. Lab, Lecture. Credits: 0.75. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed) and 10442161C01 GTAW on Carbon Steel (B or better)) (concurrent enrollment is allowed).

10-442-162-C02 Gas Tungsten Arc Welding AWS Testing on Stainless Steel
Students will perform AWS entry level fabrication project using the GTAW welding process on Stainless Steel. Learners will complete these welds and weldments conducted per AWS standards. Lab. Credits: 0.25. Prerequisite(s): 10442162C01 GTAW on Stainless Steel (B or better) (concurrent enrollment is

allowed).

10-442-162-C03 Gas Tungsten Arc Welding on Aluminum
Students will develop skills in gas tungsten arc welding. Learners use the “tig” process in flat, horizontal, and vertical positions on aluminum. Required welds include fillet and groove welds with gas tungsten arc welding. Weld quality is assessed per AWS standards. Lab, Lecture. Credits: 0.75. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed) and 10442161C01 GTAW on Carbon Steel (B or better)) (concurrent enrollment is allowed).

10-442-162-C04 Gas Tungsten Arc Welding AWS Testing on Aluminum
Students will perform AWS entry level fabrication project and bend test using the GTAW welding process on aluminum. Learners will complete these welds and weldments conducted per AWS standards. Lab. Credits: 0.25. Prerequisite(s): 10442162C03 GTAW on Aluminum (B or better) (concurrent enrollment is allowed).

10-442-163-00 Weld Inspection and Testing
Emphasizes measurement of weld defects and assessment of weld quality conformance to common welding codes. Learners conduct etch tests, bend tests and break tests on welds. The process of procedure and welder qualification is explored through group activities. Lab, Lecture. Credits: 1.

10-442-163-C01 Weld Inspection and Testing
Emphasizes measurement of weld defects and assessment of weld quality conformance to common welding codes. Learners conduct visual inspections, Die Penetrant and bend test on welds. The process of procedure and welder qualification is explored. Lab, Lecture. Credits: 1. Prerequisite(s): 10442112C02 Print Reading and Sketching (B or better) (concurrent enrollment is allowed).

10-442-165-00 Welding Metallurgy
Designed to educate students on metallurgy fundamentals. Explores the production of both ferrous and nonferrous metals. Students will experience rockwell testing procedures, heat-treating applications, determining stresses or strengths, and many other procedures to determine material properties. Lecture. Credits: 2.

10-442-165-C01 Welding Metallurgy
Designed to educate students on metallurgy fundamentals. Explores the production of both ferrous and nonferrous metals. Students will experience Rockwell testing procedures, heat-treating applications, determining stresses or strengths, and many other procedures to determine material properties. Lecture. Credits: 2. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-166-00 Fund of Welding Machine Tool Operations
Introduces students to basic shielded metal arc welding, oxy-fuel arc cutting, and pipe welding operations. The students will also work with basic machine tools used in manufacturing and maintenance to develop skills using the lathe, drill press, band saw, and grinders. Lab. Credits: 2.

10-442-172-00 Safety in Manufacturing
Prepares learners for safe operation of work site equipment. Procedures regarding welding machines, band saws, shears, drill presses, punches, grinders, oxy fuel equipment and an array of hand tools are practiced. Crane and forklift operation are introduced. Lab. Credits: 1.

10-442-172-C01 Workplace Safety
Prepares learners for safe operation of work site equipment. Procedures regarding welding machines, band saws, shears, drill presses, punches, grinders, oxy fuel equipment and an array of hand tools are practiced. Lab. Credits: 0.50.

10-442-172-C02 OSHA 10 Certification
This course covers construction safety, health principles and OSHA policies, procedures, and construction industry standards. Special emphasis is placed on the most hazardous areas using OSHA standards as a guide. This course is taught by an OSHA authorized instructor. Participants who successfully complete the course will receive a card from OSHA certifying completion of the course. Lab. Credits: 0.25. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better)) (concurrent enrollment is allowed).

10-442-172-C03 Forklift Certification
This course is designed for personnel who will work with powered industrial trucks (PIT) (i.e. forklift) used to carry, push, pull, lift, stack, or tier materials. It will better familiarize the worker with the potential health and safety concerns associated with powered industrial trucks. The content in this course is designed to comply with the intent of the applicable regulatory requirements. Lab. Credits: 0.25. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-173-00 Thermal Cutting
Develops skill in thermal cutting and gouging processes. Learners practice manual and machine oxy-fuel cutting, plasma cutting and gouging and air carbon arc gouging. Lab, Lecture. Credits: 1. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed).

10-442-173-C01 Thermal Cutting
Develops skill in thermal cutting and gouging processes. Learners practice manual and machine oxy-fuel cutting, plasma cutting and gouging and air carbon arc gouging. Lab, Lecture. Credits: 1. Prerequisite(s): 10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better) (concurrent enrollment is allowed).

10-442-174-00 Advanced Gas Metal Arc Welding
Builds on skills developed in Gas Metal Arc Welding. Learners use the “mig” process in the flat, horizontal and vertical positions on steel, stainless steel and aluminum. Required welds include fillet and groove welds with spray and pulsed spray transfer. Lab, Lecture. Credits: 3. Prerequisite(s): 1044217200 Safety in Manufacturing (C or better) (concurrent enrollment is allowed) and 1044215900 Gas Metal Arc Welding (C or better) (concurrent enrollment is allowed).

10-442-174-C01 Gas Metal Arc Welding-P on Stainless Steel
Students will develop skills in gas metal arc pulse welding. Learners use the “mig” process in flat, horizontal, and vertical positions on stainless steel. Required welds include fillet and groove welds with pulsed spray transfer. Weld quality is assessed per AWS standards. Lab, Lecture. Credits: 1. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better)) (concurrent enrollment is allowed).

10-442-174-C02 Gas Metal Arc Welding-P AWS Testing on Stainless Steel
Students will perform AWS entry level fabrication project using the GMAW-P welding process on stainless steel. Learners will complete these welds and weldments conducted per AWS standards. Lab. Credits: 0.50. Prerequisite(s): 10442174C01 GMAW on Stainless Steel (B or better) (concurrent enrollment is allowed).

10-442-174-C03 Gas Metal Arc Welding-P on Aluminum
Students will develop skills in gas metal arc pulse welding. Learners use the “mig” process in flat, horizontal, and vertical positions on aluminum. Required welds include fillet and groove welds with pulsed spray transfer. Weld quality is assessed per AWS standards. Lab, Lecture. Credits: 1. Prerequisite(s): (10442172C01 Workplace Safety (B or better) (concurrent enrollment is allowed) and 10442112C01 Print Interpretation and Weld Symbols (B or better)) (concurrent enrollment is allowed).

10-442-174-C04 Gas Metal Arc Welding-P AWS Testing on Aluminum
Students will perform AWS entry level fabrication project using the GMAW-P welding process on aluminum. Learners will complete these welds and weldments conducted per AWS standards. Lab. Credits: 0.50. Prerequisite(s): 10442174C03 GMAW on Aluminum (B or better) (concurrent enrollment is allowed).

10-442-180-C01 Solidworks for Welding
This course is designed to give students hands-on experience using SolidWorks three-dimensional Parametric CAD software. SolidWorks is a mechanical design software that takes advantage of the familiar Microsoft Windows graphical user interface. The students will use the software to create three-dimensional solid parts and assemblies. The students will also create

orthographic projections from the solid geometry. Lab. Credits: 1. Prerequisite(s): 10442112C02 Print Reading and Sketching (B or better) (concurrent enrollment is allowed).

10-442-195-00 Welding for Automotive
This course introduces welding and cutting procedures used to repair and maintain automobiles. Emphasis will be placed on gas metal arc welding, shielded metal arc welding, oxyacetylene torch cutting processes welding techniques through a variety of different procedures. Lab, Lecture. Credits: 1.

31-421-320-00 Basic Blueprint Reading Welding
Designed to develop skills and knowledge required to enable the student to interpret and use welding and related prints. Topics include: title blocks, alphabet of lines, orthographic projection, sketching techniques, auxiliary views, section views, review of welding symbols, general dimension and tolerancing, and weldments. Lecture. Credits: 4.

31-442-300-00 Safety in Welding
Designed to inform students on safety procedures and safety equipment used in industry. Familiarizes students with welding equipment, band saws, shears, drill presses, punches, grinders, oxy fuel equipment, and an array of hand tools. Lecture. Credits: 1.

31-442-307-00 Metallurgy Fundamentals for Welding
Designed to educate students on metallurgy fundamentals. Explores the production of both ferrous and nonferrous metals. Students will experience rockwell testing procedures, heat-treating applications, determining stresses or strengths, and many other procedures to determine material properties. Lab, Lecture. Credits: 2.

31-442-312-00 Destructive and Nondestructive Testing
Designed to familiarize students with various weldment testing methods used in the industry. Methods will follow American Welding Society standards and procedures that are used in today's industry. Students will identify welding defects and explore how to eliminate them. Lecture. Credits: 1.

31-442-321-00 Shielded Metal Arc Welding
Designed to familiarize students with the different electrodes used in SMAW and also develop welding skills. Students will perform SMAW welds to AWS D1.1 standards. Students will be welding in all positions while using many different thicknesses of material. Lab, Lecture. Credits: 2. Prerequisite(s): 3144232300 Gas Metal Arc Welding Short Circuit (C or better) (concurrent enrollment is allowed) and 3144232200 Oxyfuel and Arc Cutting Processes (C or better) (concurrent enrollment is allowed).

31-442-322-00 Oxy-fuel and Arc Cutting Processes
Provides the student with the basic skills in manual and machine oxy-fuel cutting, oxy-fuel welding, oxy-fuel brazing, oxy-fuel soldering, repair/ maintenance practices, and small fabrication techniques. Emphasis will be placed on types of weldments and quality of weldment. Lab, Lecture. Credits: 2. Prerequisite(s): 3144232300 Gas Metal Arc Welding Short Circuit (C or better) (concurrent enrollment is allowed) and 3144232100 Shielded Metal Arc Welding (C or better) (concurrent enrollment is allowed).

31-442-323-00 Gas Metal Arc Welding Short Circuit
Designed to develop students with basic welding skills in GMAW short circuit and spray transfer processes. Students will familiarize themselves with safety procedures, welding equipment, and welding procedures for these processes. Lab, Lecture. Credits: 5. Prerequisite(s): 3144232100 Shielded Metal Arc Welding (C or better) (concurrent enrollment is allowed) and 3144232200 Oxyfuel and Arc Cutting Processes (C or better) (concurrent enrollment is allowed).

31-442-324-00 Flux Cored Arc Welding
Designed to develop welding knowledge and skills in the flux cored arc welding process. Student will perform weldments to AWS D1.1 standards. Students will be welding in all positions with different thicknesses of steel. Lab, Lecture. Credits: 3.

31-442-326-00 Gas Tungsten Arc Welding
Explores a very common welding process used in industry. Students will weld with mild steel, stainless steel, and aluminum, and be required to weld in all positions with these materials. Weldments must meet AWS D1.1 Code. Lab, Lecture. Credits: 5. Prerequisite(s): 3144232400 Flux Cored Arc Welding (C or better) (concurrent enrollment is allowed).

World Language (802)

20-802-217-00 Spanish I
Designed for students with no previous training in the language. Emphasizes development of basic communicative skills through practice in listening, speaking, reading and writing. Stresses vocabulary and grammar to enhance students' ability to speak and write in Spanish. Study of customs and values provides an increased awareness of the Spanish-speaking cultures. On completion, students are able to participate in uncomplicated conversations on everyday topics. Lecture. Credits: 4.

20-802-221-00 Spanish II
Enhances student ability to learn to read, write, understand, and speak Spanish. Lecture. Credits: 4. Prerequisite(s): 2080221700 Spanish I (C or better).

20-802-230-00 Spanish III
Enhances complex communicative skills developed during previous semesters of study. Emphasis is placed on speaking and writing in extended contexts, focusing on presentational and interpersonal communication. Everyday situations, including eating out, travel and vacations, provide students an opportunity to expand their survival skills in Hispanic cultures. Language and critical thinking skills are expanded and deepened through reading, writing and speaking about health care, the environment, job interviews/ resumes and relationships. Readings of cultural and literacy significance, as well as a unit on art history, provide vehicles for discussions, presentation, and composition. Lecture. Credits: 4. Prerequisite(s): 2080222100 Spanish II (C or better).

20-802-231-00 Spanish IV
Reviews and expands upon key grammatical structures needed to community effectively in Spanish. Focuses on expanding vocabulary, increasing grammatical accuracy, and achieving paragraph-length discourse. Using the target language, students read and discuss culturally centered texts, review and broaden grammatical knowledge, complete oral and written exercises, write compositions, and make formal class presentations. Lecture. Credits: 4. Prerequisite(s): 2080223000 Spanish III (C or better).

20-802-235-00 Spanish V Writing and Grammar
Focuses on developing accuracy in written communication skills. Building on their experience in Spanish IV, students study Spanish grammar at greater breadth and depth than was required in previous courses, with the ultimate objective of improving their ability to read and write accurately in Spanish. Students read and analyze literary excerpts as the basis for active class discussion, presentation, and composition. Lecture. Credits: 3. Prerequisite(s): 2080223100 Spanish IV (C or better).

20-802-250-00 Topics in World Language
Designed for students with no previous training in language. Emphasizes development of basic communicative skills through practice in listening, speaking, reading, and writing. Stresses vocabulary and grammar to enhance students' ability to speak and write in the target language. Study of customs and values provides an increased awareness of target culture. On completion, students are able to participate in uncomplicated conversations on everyday topics. Lecture. Credits: 4.

20-802-250-01 Native American Language
Designed for students with no previous training in the Native American languages. Emphasizes development of basic communication skills in a Native American language through practice in listening, speaking, reading, and writing, as appropriate to the culture. Stresses vocabulary and grammar, as appropriate to the culture, to enhance students' ability to speak and write in the target language. Study of customs and values provides an increased awareness of the Native American culture. On completion, students are able to participate in uncomplicated conversations on everyday topics. Lecture. Credits: 4.