Northcentral TECHNICAL COLLEGE

2024-2025

Suggested Start College Now Courses

Equal Opportunity Officer
Northcentral Technical College
1000 W. Campus Drive
Wausau, WI 54401
Phone: 715.803.1057

-This list is NOT all-inclusive. There may be classes eligible for Start College Now that do not appear on this list.

-If you notice a course that is not on this list and should be, OR you notice any errors on this list, please reach out to wittwhybrow@ntc.du

-Some courses have prerequisites, courses that must be successfully completed prior to enrolling in a class, or require admittance into a program in order to enroll. Please reach out to wittwhybrow@ntc.edu if you would like more detailed information about any courses and/or programs.

-Course availability is subject to change and may not always be reflective of what is included in this coursebook.

Agriculture, Food, and Natural Resources

EMPLOYER/EMPLOYEE RELATIONS 10091171 (2 credits) Introduces topics that relate to working in a farm environment. Topics include personality, family relationships, decision-making and social relations as they apply to everyday living and working in an ongoing family operation or entry into the non-family farm job market. Personnel management techniques include: development of goals, determining personnel needs, finding and recruiting the right people, performance appraisals, training, promotions and terminations.	Fall Only In-Person at Merrill AG Center
EQUINE HANDLING AND BEHAVIOR 1 10091210 (1 credit) Introduces the student to the normal behavior of the horse and emphasizes the proper way to handle the horse in a variety of situations. Additional topics include equine social behavior, body language and their learning process. The better a horse's conformation, the better it will be able to perform; therefore, this course will also include basic anatomy and conformation. Learners will study horse-human interaction and utilize safe animal handling techniques as they work with the animals and learn how to use horse care equipment.	Fall Only Required in-person labs
EQUINE HANDLING AND BEHAVIOR 2 10091216 (1 credit) Examines equine conformation and the impact on performance. The better a horse's conformation, the better it will be able to perform; therefore, this course will also include basic anatomy and conformation. Learners will be introduced to the classification of the five basic, natural gaits and equine equipment/tack. Learners will also examine basic horse behaviors and training techniques and identify common uses for horses, donkeys and mules. Learners will examine horse facility needs and housing options. This course provides a combination of online and hands on learning with required in-person labs.	Fall Only Required in-person labs Pre/Corequisite: 10-091-210 EQUINE HANDLING AND BEHAVIOR 1.
EQUINE HEALTHCARE 10091163 (2 credits) Introduces various topics in equine healthcare such as colic prevention, hoof structure, hoof care, common foot problems, parasites and vaccines. Learners will study methods for recognizing illness and administering basic first aid. Concepts for equine nutritional requirements and how they relate to equine healthcare will be further analyzed. This course provides a combination of online and hands on learning with required in-person labs. Prerequisite: 10-091-161 EQUINE HANDLING AND BEHAVIOR or 10-091-210 EQUINE HANDLING AND BEHAVIOR 1 and 10-091-216 EQUINE HANDLING AND BEHAVIOR 2.	Summer Only
FOOD-SAFETY & SANITATION CERTIFICATION 47303491AA (0.2 credits) This state approved course prepares you for the National Restaurant Association Certification examination from the Department of Health and Social Services by providing managers and employees in the food-service industry the knowledge of food-safety procedures. By taking this state approved course and passing the certification examination, you will be eligible to apply for your Certified Food Manager License from the Department of Health and Social Services. The National Restaurant Association certification examination is the second night of the course. Textbook required from the NTC Bookstore.	Sometimes open to non-program students
INTRODUCTION TO ANIMAL SCIENCE 10091104 (3 credits) Introduces the basics of livestock management. Examines management of the dairy herd with concentration on nutrition, feedstuff's classification, reproduction, genetics, animal behavior, animal health and sustainable agriculture practices.	Fall Only

Learners explore basic husbandry and care procedures for animals. This is offered in an online format.	
ORIENTATION TO AGRICULTURAL STUDIES 10091101 (1 credit) Familiarizes learners with the Agriculture Center of Excellence and standard operating procedures. Learners will begin to develop a strategic college plan. Learners will be exposed to the various opportunities available throughout their program of study. This course will acquaint students with basic husbandry practices for dairy animals to prepare them for future courses; learners will work directly with the dairy animals throughout the program.	Fall Only In-Person at Merrill AG Center
INTRODUCTION TO SOILS 10093102 (2 credits) Examines basic soil and plant relationships. Soil fertility is important in considering the role that the soil plays with regard to the availability of nutrients to plants. Learners will study nutrients such as nitrogen, phosphorus and potassium, as well as other macro and micro nutrients. Learners will practice appropriate sampling, analyzing and interpretation of soil sample results. Various soil management practices will be discussed, along with soil physical, chemical and biological properties. The soil profile will be examined.	Fall Only
MICROBIOLOGY 10806197 (4 credits) Investigates historical perspectives of microbiology, microscopy, characteristics of procaryotic and eucaryotic microorganisms, control of microbial growth, microbial genetics, and classification of microorganisms, principles of disease, epidemiology, immunology and pathogenic microbiology.	Prerequisites: Letter grade of "C" or better in 10-806-177 GEN ANATOMY & PHYSIOLOGY or 10-091-172 VETERINARY MEDICAL TERMINOLOGY and 10-091-214 VERTEGRATE ANATOMY & PHYSIOLOGY 1.
MILK QUALITY & PRODUCTION 10091109 (3 credits) Prepares learners with a solid background in producing quality milk and utilizing good herd health management practices. Learners will be introduced to milking systems and components, milk procedures, sanitation, diseases, udder anatomy and milk secretion. Learners will collect milk samples and analyze milk culture reports as they relate to quality milk and animal health. Learners will be exposed to milk quality practices globally.	Spring Only In-Person at Merrill AG Center Prerequisite: 10-091-101 ORIENTATION TO AGRICULTURE STUDIES.
ORIENTATION TO VETERINARY STUDIES 10091204 (1 credit) Familiarizes learner with the Agriculture Center of Excellence and standard operating procedures. Learners will explore career opportunities in the veterinary medical field. Course discussion will cover requirements for licensing and the scope of practice for veterinary technicians, professional organizations and career challenges. Part of this course will be held in the dairy barn at the Agriculture Center for Excellence.	In-Person at Merrill AG Center Prerequisites: 10-091-172 VETERINARY MEDICAL TERMINOLOGY and 10-091-214 VERTEBRATE ANATOMY & PHYSIOLOGY 1.
PRINCIPLES OF EQUINE SCIENCE 10091162 (2 credits) Examines equine basics such as horse coloring, temperament, breeds and classes of horses, gaits and action. Learners will study basic nutrition requirements including digestive anatomy. Learners will explore additional topics such as determining age, height, weight, basic nutrition requirements and housing options.	Spring Only Required in-person labs Prerequisite: 10-091-161 EQUINE HANDLING AND BEHAVIOR or 10-091-210

	EQUINE HANDLING AND BEHAVIOR 1 and 10-091-216 EQUINE HANDLING AND BEHAVIOR 2.
VERTEBRATE ANATOMY AND PHYSIOLOGY 1 10091214 (3 credits) Examine the body systems of warm-blooded vertebrates, through both microscopic and macroscopy anatomy and physiology, learning activities include animal dissection. Specific topics covered throughout this course are cell structures, mitosis & meiosis, body tissues, integumentary system, skeletomuscular system, cardiovascular system, respiratory system, and digestive system. Avian anatomy and physiology will also be explored. This course is part of a two-course series that establishes the essential framework required for becoming a veterinary technician.	In-Person at Merrill AG Center Learner is highly recommended to have completed two semesters of high school chemistry and biology or one semester of college chemistry and biology with a "C" or better
VETERINARY MEDICAL TERMINOLOGY 10091172 (1 credit) Develop an understanding of acceptable veterinary medical terminology for common clinically recognizable diseases, operations, systems and procedures. Further, learners will distinguish common medical signs, abbreviations and colloquial vocabulary. Medical terms and language is covered as it relates to the animal's body as a whole.	Online or In-Person

Engineering

Architectural Design and Civil Engineering

AUTOCAD 2D FOR ARCHITECTURAL DESIGN 10614139 (2 credits) Explores the latest version of Autodesk's AutoCAD program as a 2D design, drafting and visualization tool. Provides learners with skill development starting at an introductory level and progressing to a level in which authentic architectural construction graphics and working drawings including annotations can be developed.	Fall Only In-person or via Zoom (scheduled meeting times)
INTRODUCTION TO ARCHITECTURAL DESIGN 10614152 (2 credits) Explores the fundamental principles of architectural design and drafting. Examine topics including: career exploration, sustainable-residential design, industry related practices and procedures, State of Wisconsin building codes, area planning, and sketching application.	Fall Only In-person Pre/Corequisites: 10614139 AUTOCAD 2D FOR ARCHITECTURAL DESIGN
ARCHITECTURAL DESIGN 1 10614101 (2 credits) Develops learner's ability to design and create construction drawings for a one-story residence including: foundation and floor plans, wall and stair sections and elevations (AutoCAD 2D software will be utilized). Design and analysis of joist, stair, and roof design is also covered.	Fall Only In-person Pre/Corequisites: 614-152 INTRODUCTION TO ARCHITECTURAL DESIGN and 10-614-139 AUTOCAD 2D FOR ARCHITECTURAL DESIGN.
SKETCHUP FOR ARCHITECTURAL DESIGN 10614129 (2 credits) Explores Trimble's SketchUp as a design and visualization tool. Develops learners' skills in creating realistic computer models that can be used to create full color renderings, animations, exported/imported AutoCAD files for construction drawings and Layout as a construction documentation tool.	Spring Only In-person or via Zoom (scheduled meeting times) Spring Only Pre/Corequisite: 10-614-139 AUTOCAD 2D FOR ARCHITECTURAL DESIGN or 10-606-140 2D MECHANICAL CAD.

INTRODUCTION TO CIVIL ENGINEERING TECHNOLOGY 10607100 (1 credit) Provides an introduction to Civil Engineering Technology and includes key areas of knowledge such as: a history of Civil Engineering and its disciplines; Engineering ethics; Basic drafting techniques, including measurement and scaling, sheet format and layout, dimensioning and line work, orthographic projection, and isometric drawings; an introduction to Civil Engineering plans, specifications, and estimates; an introduction to Project Management, including an overview of a project life cycle; Microsoft Windows Office programs and related skills such as file and document management; and resume and portfolio preparation for those in the Civil Engineering field.	Fall Only In-person or via Zoom (scheduled meeting times)

Mechanical Design

TECHNICAL DRAFTING/CAD 10606105 (2 credits) Introduces basic knowledge and skill development of technical drawing with emphases on freehand sketching and introductory CAD drawing.	In-Person – Fall Only Online – Fall and Spring
TECHNICAL DETAILING 10606128 (2 credits) Expands basic knowledge and skill development of mechanical drawing. Emphasis is placed on fits and tolerances, geometric and positional dimensioning and tolerancing, assembly and detail drawings and parts lists.	In-Person – Fall Only Online – Fall and Spring Pre/Corequisite: 10-606-105 TECHNICAL DRAFTING/CAD.
MATERIALS OF INDUSTRY 10606132 (2 credits) In this course, you will be involved in the in-depth examination of manufacturing materials related to the ultimate design decision involved in part and product design. You will learn the principles and theory of the methodology of material selection, the properties of materials, the structure of materials and specific materials and their function in product application.	Online - Fall and Spring
SOLIDWORKS 1 10606133 (1 credit) Introduces the learner to basic SolidWorks commands to produce 3-dimentsional parts, assemblies and engineering drawings. The learner will master beginner level commands and have a thorough understanding of the basic operation of the software.	Online
SOLIDWORKS 2 10606134 (1 credit) Introduces the learner to intermediate SolidWorks commands to produce 3-dimensional parts, assemblies and engineering drawings. The learner will utilize and practice their existing beginner level commands and skills while mastering intermediate level skills with an emphasis on mechanical engineering drafting and design. Upon completion the Learner will have an opportunity to take the SolidWorks Certified Associate Exam (CSWA) to obtain a highly recognized credential known worldwide.	Online Pre/Corequisite: 10-606-133 SOLIDWORKS 1.

Electromechanical & Automation

INDUSTRY WORKPLACE SAFETY 10620172 (1 credits) Introduces General Industry Safety Practices and is intended to provide an entry level worker's general awareness on recognizing and preventing hazards in a general industry setting. An OSHA 10 General Industry certification will be obtained with completion of the course. In addition, lab specific safety will be covered. OSHA has some very specific rules for receiving the certification card for OSHA 10. OSHA 10 Cards can only be issued to students in the face-to-face classes who attend every class. OSHA will not allow anyone taking this course in an online/flex format to receive a certification card. If you need the OSHA 10 card upon completion of this course, please be sure you are enrolled in the face-to-face section.	In-Person

INDUSTRIAL ELECTRONICS TECHNOLOGY 1 - DIRECT CURRENT ELECTRICAL CHARACTERISTICS 10660123 (1 credit) Introduces the fundamental principles of direct current (DC) and the effects of resistance, capacitance and inductance operating within the DC electrical and magnetic fields. Circuit analysis utilizes project based labs where students experience the practical application of Ohm's, Watt's, Kirchhoff's and Lenz's laws. Learning experiences in IET 1 will be continued and expanded upon in IET 2.	In-Person Pre/Corequisite: 10-620-172 INDUSTRY WORKPLACE SAFETY or 31-413-100 LINE ELECTRICIAN SAFETY 2 or 31-469-100 GAS UTILITY FIELD TRAINING 1 or Dean/Associate Dean approval.
INDUSTRIAL ELECTRONICS TECHNOLOGY 2 - ALTERNATING CURRENT ELECTRICAL CHARACTERISTICS 10660124 (1 credit) Introduces the fundamental principles of alternating current (AC) and the effects of resistance, capacitance and inductance operating at 60 Hertz (Hz) single phase within the AC electrical and magnetic fields. Circuit analysis uses project based labs where students experience the practical application of Ohm's, Watt's, and Faraday's laws. Learning experiences in IET 2 build upon those in IET 1 and will be continued and expanded upon in IET 3.	In-Person Pre/Corequisite: 10-660-123 INDUSTRIAL ELECTRONICS TECHNOLOGY 1 - DIRECT CURRENT ELECTRICAL CHARACTERISTICS
INDUSTRIAL ELECTRONICS TECHNOLOGY 3 - ELECTRONIC CIRCUITS AND DEVICES 10660125 (1 credit) Introduces the fundamentals associated with the properties of silicon controlled devices used in industry. Both DC and AC operating characteristics will be explored as well as the application of silicon controlled devices used in industrial circuit controls. Circuit analysis utilizes project based labs where students experience the practical application of skills learned in IET 1 and 2.	In-Person Pre/Corequisite: 10-660-125 INDUSTRIAL ELECTRONICS TECHNOLOGY 2 - ALTERNATING CURRENT ELECTRICAL CHARACTERISTICS
INTRODUCTION TO MICROCONTROLLERS 10660121 (1 credit) Introduces the microcontroller, a tiny computer which uses digital inputs and outputs to control electrical/electronic circuits. A Basic Stamp microcontroller will be programmed via a USB port to a PC using a PBASIC editor program. It will then be connected to digital inputs such as switches and sensors and used to control output circuits such as LED displays, DC motors, relays, buzzers and servo motors.	In-Person Pre/Corequisite: 10-620-172 INDUSTRY WORKPLACE SAFETY.

INTRODUCTION TO MACHINE SHOP 10420101 (2 credits) Apply and learn operation of mills, lathes, drilling, grinding and general metal fabrication. This course is designed to give the learner the theory and hands-on training leading to the ability to work safely in a shop. Individual part fabricating and precision measurement are covered.	In-Person

Transportation

Automotive

AUTOMOTIVE SERVICE SAFETY 10602200 (1 credit) Describe the automotive service facility. Safety, the use of basic hand and power tools, and hoist training helps the prospective automobile technician work safely and efficiently.	
BASIC VEHICLE MAINTENANCE 10602201 (2 credits) Perform vehicle maintenance and repair. Focus will be on thread repair, oil change, tire rotations, and TPMS (Tire Pressure Monitor System) relearn procedures.	
UNDERHOOD MAINTENANCE 10602202 (1 credit) Perform vehicle preventative maintenance, and drivetrain maintenance procedures. Learners will focus on air filter, wiper blade, serpentine belt, headlamp, battery maintenance and repair.	
TIRE SERVICE 10602203 (1 credit) Prepares learners for fundamental tire repair procedures. Emphasis on mounting and balancing tires, service and repair of tire pressure monitoring systems (TPMS), basic tire leak detection methods and repairs, and basic suspension inspection procedures.	
COOLING SYSTEM MAINTENANCE 10602204 (1 credit) Introduces learners to cooling system preventative maintenance practices and procedures. Focusing on basic component identification, coolant leak detection procedures, coolant quality testing, and coolant exchange procedures.	
DRIVETRAIN SERVICE 10602205 (2 credits) Introduction to drivetrain maintenance procedures. Learners will perform fluid exchange services for transmission, transfer case, and differential systems.	
BRAKES 1 10602206 (2 credits) Explain design, construction and service of vehicle braking systems. Emphasis is placed on disc applications, the machining of brake rotors, hydraulic systems and components along with system maintenance.	
BRAKES 2 10602207 (2 credits) Explain design, construction and service of vehicle braking systems. Emphasis is placed on drum applications, power brake units, the machining of brake drum, the parking brake system.	
AUTOMOTIVE SERVICE EXPERIENCE 1 10602208 (1 credit) Demonstrate shop practices. Learners will practice vehicle maintenance on live customers vehicles. Emphasis on quality control of repairs, time management, techniques of customer communication (verbal and written), estimate planning, and meeting deadlines. Focus will be on first semester content.	

Diesel

DIESEL BRAKE SYSTEMS 1 10412119 (1 credit) Focuses on the air brake system's component operation and brake maintenance for trucks and tractor/trailer combinations. In this course, learners will learn to perform overhaul procedures for cam style brake systems.	
DIESEL BRAKE SYSTEMS 2 10412125 (2 credits) Explores drum and disc air operated foundation brakes, as well as heavy-duty hydraulic brakes. Provides the opportunity for learners to test and troubleshoot the entire air and hydraulic brake systems. Introduces learners to ABS systems found in trucks.	Pre/Corequisite: 10-412-119 DIESEL BRAKE SYSTEMS 1.
DIESEL ELECTRICAL SYSTEMS 1 10412118 (1 credit) Analyzes the fundamentals of electricity and electrical safety. Explores Ohm's Law, use of a digital multimeter, wiring and components.	
DIESEL ELECTRICAL SYSTEMS 2 10412123 (2 credits) Expands on the principles of basic electricity and application. Wiring diagram interpretation and utilization are introduced and practiced. Learners will also begin to apply their knowledge on the battery and starting systems.	Pre/Corequisite: 10-412-118 DIESEL ELECTRICAL SYSTEMS 1.
DIESEL PREVENTATIVE MAINTENANCE 1 10412120 (1 credit) Discusses the importance of vehicle maintenance and inspections on commercial motor vehicles. Also introduces the techniques for performing proper maintenance and inspections.	
DIESEL PREVENTATIVE MAINTENANCE 2 10412127 (2 credits) Focuses on the DOT's criteria for performing annual inspections. Also covers record-keeping requirements, liability concerns, and offers the opportunity to earn an annual inspection certificate upon successful completion of the test.	Pre/Corequisite: 10-412-120 DIESEL PREVENTATIVE MAINTENANCE 1.
HEAVY DUTY SUSPENSION & STEERING 1 10412126 (1 credit) Introduces fastener identification and torque as it relates to equipment repairs. In the lab setting, proper torque techniques and concerns are discussed and practiced.	
HEAVY DUTY SUSPENSION & STEERING 2 10412124 (2 credits) Explores the operation, maintenance and overhaul of various heavy-duty steering and suspension systems. Wheel alignment diagnosis, adjustment and repair will be examined	Pre/Corequisite: 10-412-126 HEAVY DUTY SUSPENSION & STEERING 1.
INTRODUCTION TO WELDING 10442101 (1 credit) Compares equipment and techniques used in the major arc welding and thermal cutting processes. Learners perform introductory level welds in the SMAW, GMAW, FCAW and GTAW processes. Learners also perform material preparation skills including shearing, grinding and thermal cutting.	

Truck Driving (CDL)

TRUCK DRIVING 1 10458100 (1 credit) Introduces learners to the laws, regulations and various certification levels of a Commercial Driver License (CDL). Introduces learners to the basic operation of a Class A Commercial Motor Vehicle.	In-Person in Merrill Pre/Corequisite: 10-458-104 COMMERCIAL LEARNER PERMIT.
TRUCK DRIVING 2 10458101 (4 credits) Prepares learners in the operation of commercial motor vehicles. Extensive hands-on training will be implemented throughout the course on tractor-trailers, giving the learner the skills needed to test for a Class A Commercial Driver's License. Limited lecture will be used to inform students of industry regulations, driver safety, inspections and communication.	In-Person in Merrill Pre/Corequisite: 10-458-100 TRUCK DRIVING 1.
TRUCK DRIVING 3 10458102 (4 credits) Builds on skills learned in Truck Driving 1 and 2, as students hone skills and practice to test for a Class A Commercial Driver's License. This course will focus on hands-on training in advanced driving operations, backing skills, weight distribution techniques, and trip planning.	In-Person in Merrill Pre/Corequisite: 10-458-101 TRUCK DRIVING 2.

Manufacturing

Welding

INTRODUCTION TO WELDING 10442101 (1 credit) Compares equipment and techniques used in the major arc welding and thermal cutting processes. Learners perform introductory level welds in the SMAW, GMAW, FCAW and GTAW processes. Learners also perform material preparation skills including shearing, grinding and thermal cutting.	
WELD INSPECTION & TESTING 10442163 (1 credit) 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.	
WELDING SAFETY 10442172 (1 credit) Prepares learners for safe operation of work site equipment. Procedures regarding welding machines, band saws, shears, grinders, oxy fuel equipment and an array of hand tools are practiced. Crane and forklift operation are introduced.	
THERMAL CUTTING 10442173 (1 credit) 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.	Pre/Corequisite: 10-442-172 WELDING SAFETY.
WELD PRINT READING 1: BASIC VIEWS AND DIMENSIONS 10442181 (1 credit) Develop 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.	

WELD PRINT READING 2: OTHER VIEWS AND SYMBOLS 10442182 (1 credit) Builds on print interpretation skills developed in Weld Print Reading 1. Learners study increasingly complicated prints and welding symbols. Learners will apply concepts in hands-on activities, practicing basic layout skills and safe operation of saws, shears and drills.	
GAS METAL ARC WELDING 1: SHORT CIRCUIT TRANSFER 10442183 (1 credit) Develops skill in gas metal arc welding. Learners use short circuit transfer to make fillet and groove welds in the flat and horizontal positions on steel. Weld quality is assessed per AWS D1.1 Structural Steel Code.	Pre/Corequisites: 10-442-172 WELDING SAFETY and 10-442-101 INTRODUCTION TO WELDING.
GAS METAL ARC WELDING 2: SHORT CIRCUIT TRANSFER 10442184 (1 credit) Develops skill in gas metal arc welding. Learners use short circuit transfer to make fillet and groove welds in the vertical and overhead positions on steel. Weld quality is assessed per AWS D1.1 Structural Steel Code.	Pre/Corequisite: 10-442-183 GAS METAL ARC WELDING 1: SHORT CIRCUIT TRANSFER (HORIZONTAL).
GAS METAL ARC WELDING 3: SPRAY TRANSFER 10442185 (1 credit) Develops skill in gas metal arc welding. Learners use spray transfer to make fillet and groove welds in the flat and horizontal positions on steel. Weld quality is assessed per AWS D1.1 Structural Steel Code.	Pre/Corequisite: 10-442-183 GAS METAL ARC WELDING 1: SHORT CIRCUIT TRANSFER (HORIZONTAL).
GAS METAL ARC WELDING 4: PULSED SPRAY TRANSFER 10442186 (1 credit) Develops skill in gas metal arc welding. Learners use pulsed spray transfer to make fillet and groove welds in the horizontal and vertical positions on steel. Weld quality is assessed per AWS D1.1 Structural Steel Code.	Pre/Corequisite: 10-442-183 GAS METAL ARC WELDING 1: SHORT CIRCUIT TRANSFER (HORIZONTAL).
GAS METAL ARC WELDING 5: STAINLESS STEEL AND ALUMINUM 10442204 (1 credit) Develops skill in gas metal arc welding. Learners use pulsed spray transfer to make fillet and groove welds in the horizontal and vertical positions on stainless steel and aluminum.	Pre/Corequisite: 10-442-186 GAS METAL ARC WELDING 4: PULSED SPRAY TRANSFER.
GAS METAL ARC WELDING 6: SHEET METAL 10442205 (1 credit) Develops skill in gas metal arc welding. Learners use short circuit transfer and pulsed spray transfer to make fillet and groove welds in the horizontal and vertical positions on sheet metal.	Pre/Corequisite: 10-442-186 GAS METAL ARC WELDING 4: PULSED SPRAY TRANSFER.

Arts, A/V Technology, and Communications, Business Management, Administration, Finance, Marketing, Hospitality and Tourism

ACCOUNTING-1 10101111 (4 credits) Introduces accounting concepts and financial statements for sole proprietorships. Learners analyze and record routine transactions, adjusting entries, and closing entries. Learners prepare the Income Statement, Statement of Owner's Equity, and the Balance Sheet from the financial records they create for service and merchandising businesses. Covers accounting for sales, inventory, cash, and receivables.	
ACCOUNTING-2 10101113 (4 credits) Expands on the accounting concepts presented in Accounting 1. Introduces the learner to fixed assets, intangible assets, current and payroll liabilities, Partnerships, Corporations, bonds, the Statement of Cash Flows, and financial statement analysis. Demonstrate achievement by completion of various projects.	Prerequisite: 10-101-111 ACCOUNTING 1. Pre/Corequisite: 10-804-123 MATH WITH BUSINESS APPLICATIONS or 10-804-107 COLLEGE MATH. 10-103-242 EXCEL LEVEL 1.
BUSINESS LAW 1 10102160 (3 credits) Develop an understanding of business organizations, contracts, and sales contracts by reviewing relevant court cases. Emphasizes the importance, meaning, and value of law in everyday lives. Special emphasis is placed on contemporary legal problems that challenge today's society.	
COMPUTER ILLUSTRATION 10204122 (2 credits) Introduces learners to the concepts and applications of computer illustration in the field of graphic communications. Learners will use Adobe Illustrator in the creation and manipulation of vector graphics for use in print, web and motion graphics.	
COMPUTER KEYBOARDING 10106178 (1 credit) Introduces keyboarding techniques (proper finger usage and body position) through hands-on touch typing. Learners are introduced to the QWERTY keyboard (alphabet, number and symbol keys). Learners will be expected to touch-type at a minimum of 27 wpm by the end of the course. Challenge test available.	
COMPUTER PAGE LAYOUT 10204123 (2 credits) Introduces learners to the basics of page layout including the use of InDesign in the design and presentation of print collateral. Learners will build skills in Adobe InDesign as they create a variety of basic and intermediate layouts for press, web and digital media.	
CONTENT MARKETING 10104209 (3 credits) – Fall only course Explores content marketing, which is the foundation of a marketing strategy. The learner will develop, organize, analyze, and measure the effectiveness of content marketing, write compelling copy using effective keywords while keeping search engine optimization in mind across a variety of online platforms.	Fall Only
DIGITAL MARKETING STRATEGIES 10104210 (3 credits) Evaluate product, pricing, distribution, and promotional strategies in the online environment, along with understanding digital marketing terminology and best practices to target the econsumer.	Fall Only

DIGITAL PHOTOGRAPHY 10204135 (3 credits) Explores digital photography. The course will cover digital image basics, digital camera features, using digital cameras, photographic techniques, studio photography, basic digital image editing and using and printing digital images.	
ESSENTIAL SKILLS FOR THE BUSINESS PROFESSIONAL 10196164 (3 credits) Explores skills that are essential for business professionals to succeed in a variety of organizational environments. Learners develop skills related to time management, goal setting, delegation, stress management, assertive communication, emotional intelligence, and training and development.	
EXCEL LEVEL 1 10103242 (1 credit) Introduces learners to the basic concepts of using Microsoft Excel with hands-on, project based activities. Learners will develop foundational skills by applying concepts explored to effectively utilize the functions and features of Microsoft Excel including creating worksheets, entering/editing data, selecting cells/ranges, creating basic charts, formatting entries and creating/modifying basic formulas.	
EXCEL LEVEL 2 10103247 (1 credit) Examines the intermediate level Microsoft Excel skills which build upon the basic Microsoft Excel concepts. Learners will demonstrate their ability to perform a number of hands-on, project based Excel intermediate level activities including but not limited to working with multiple worksheets and workbooks, creating, sorting and querying a table, importing data, working with SmartArt, images and screenshots, and financial functions.	Prerequisite: 10-103-242 EXCEL LEVEL 1.
EXPLORING LEISURE AND RECREATION 10109100 (3 credits) Introduces the foundations of leisure and recreation and to the broad spectrum of the recreation industry. Learners will have the opportunity to explore career options in the recreation industry. They will delve into operational perspectives of a variety of recreation organizations.	
EXPLORING SPORTS MANAGEMENT 10109118 (2 credits) Examines the historical, social and economic aspects of sports and its industry. Learners will explore how sports are managed from youth to the professional levels. Learners will have the opportunity to learn about currently trends, topics and careers within the sports industry.	
INTEGRATED MARKETING COMMUNICATIONS 10104128 (3 credits) Explores the latest marketing communication practices, known as integrated marketing communications(IMC), including an overview of major media such as broadcast, print, direct, digital, public relations, and promotions. The learner will create an IMC project using the latest IMC concepts.	Prerequisite: 10-104-172 MARKETING PRINCIPLES.
INTRODUCTION TO BUSINESS 10102124 (3 credits) Introduces learners to the evolution of business and entrepreneurship. Learners analyze global, ethical and legal environments of business, explore the human side of business and examine the functional approach to information technology, marketing, human resource management, operations management and finance.	
MANAGEMENT PRINCIPLES 10196191 (3 credits) Gain knowledge and develop the expertise necessary to apply the tools needed to perform essential supervisory and managerial functions. Learners will develop the ability to provide timely and constructive feedback, evaluate and improve performance, conduct performance appraisals, conduct employee mentoring, provide workforce training and coaching, communicate effectively and create a	

motivating environment. Each learner will: demonstrate the application of important management and supervisory roles including planning, organizing, staffing, leading, controlling, analysis, delegation, problem-solving, decision-making, team development, leadership, motivation, training and staff development.	
MANAGING HUMAN RESOURCES 10196193 (3 credits) Learners apply the skills and tools necessary to identify, acquire and effectively direct employee abilities to meet workforce and organizational challenges and goals. Each learner will: demonstrate the relevance of the supervisor's role in human resources management, explore the impacts of EEOC, write job descriptions, develop recruitment and selection strategies, conduct job interviews, carry out staff on-boarding and orientations, develop workplace policies and procedures, develop and implement training and development programs, execute performance appraisal and management, provide coaching and effectively utilize compensation and benefit strategies.	
MANAGING SAFETY & RISK IN BUSINESS 10196136 (3 credits) In Managing Safety & Risk in Business, learners apply the skills and tools necessary to provide a safe and secure work environment. Each learner will: demonstrate the application of safety awareness, understand federal, state and local compliance, conduct incident investigation and documentation, practice effective human relations techniques, conduct safety orientations, inspections and risk analysis, guard against issues of workplace violence, identify and assist employees with substance abuse issues, identify and correct workplace health hazards, practice first aid, CPR, fire and electrical safety, practice emergency preparedness procedures, act as a liaison with external agencies and design safe facilities.	
MARKETING PRINCIPLES 10104172 (3 credits) Introduces an understanding of basic marketing fundamentals. The learner will explore consumer demographics, lifestyles and decision making; evaluate product distribution; promotions and price planning. The learner will create a Strategic Marketing Plan combining the components listed and develop a presentation.	
MARKETING SERVICES AND CUSTOMER EXPERIENCE 10104129 (2 credits) Explores best practices to strengthen relationships with customers, understand the importance of managing customer expectations, the financial impact of customer service on corporate performance, and how to satisfy the customer's needs and wants through interaction with the customer. The learner maps the customer journey and builds a customer service strategic plan for a business.	
MICROSOFT OUTLOOK 10106118 (1 credit) Introduces the learner to managing and creating professional business email communication, contacts/groups, appointments, and meeting scheduling within Microsoft Outlook. Learners will further examine and manage the Microsoft Outlook environment for productivity.	
OFFICE LEVEL 3 10103245 (3 credits) Expands learner's proficiency using advanced functions and features of Microsoft Word, Microsoft Excel and Microsoft PowerPoint. Basic Microsoft Outlook functions and features will also be introduced. Learners will further develop advanced skills with hands-on, project-based activities leading up to the Microsoft Office Specialist (MOS) Associate Certification exams as capstones in the course.	Prerequisite: 10-103-246 WORD LEVEL 2, 10-103-247 EXCEL LEVEL 2 and 10-103-248 POWERPOINT LEVEL 2 or 10-103-244 OFFICE 2016 LEVEL 2.

This will provide learners not only with college course credit but also globally industry recognized credentials and digital badging for the Microsoft Office Specialist Associate Level Certifications.	
PAYROLL ACCOUNTING 10101135 (3 credits) Introduces various payroll laws, payroll accounting systems, and procedures. Emphasizes applying payroll laws and regulations, computing wages, salaries, and payroll tax liabilities, preparing payroll reports and maintaining payroll records. Learners prepare, W-2s, W-3s, Form 941, and Form 940. Demonstrates achievement by completing a comprehensive payroll project.	Prerequisite: 10-101-111 ACCOUNTING 1 or 10-101-147 ACCOUNTING FUNDAMENTALS.
PHOTOSHOP/IMAGE MANIPULATION 10204126 (2 credits) Explores Adobe Photoshop as a tool to create, adjust and manipulate images for print and web. Special attention is given to image manipulation techniques, color/tonal correction, resolution and output issues. Familiarity with Macintosh operating system suggested.	
POWERPOINT LEVEL 1 10103241 (1 credit) Introduces learners to the basic concepts of using Microsoft PowerPoint with hands-on, project based activities. Learners will develop foundational skills by applying concepts explored to create new presentations, adding and formatting slides, navigating a slide show, inserting images/backgrounds, adding transitions, adding animations and working with charts, WordArt and tables.	
PRINCIPLES OF SALES 10104154 (3 credits) Introduces the learner to a blend of fundamentals and new practices to prepare them to build quality partnerships by creating customer value. Today's salespeople need to live by a new set of selling principles. Customers want sales people who are their partners; people who will add value to their business, not just communicate it.	
QUICKBOOKS 1 10101180 (1 credit) Introduces basic accounting concepts, set up and management of QuickBooks Online company files. The learner will navigate through the software by setting up users, entering beginning balances, and creating inventory items. Introduces customers and vendors by entering and paying bills, writing checks, creating invoices and sales receipts. Demonstrates achievement by producing financial reports.	
QUICKBOOKS 2 Expands on the learner's ability to set up and manage a company chart of accounts, record purchases and process sales in QuickBooks Online. Learners will manage customer, vendor and employee records. Learners will expand upon their base knowledge of QuickBooks Online by performing investing and financing activities, payroll, budgets and banking activities. The learner will enter adjusting entries, produce financial statements and other year-end reports to close the books at year-end. Through a simulation project, the learner will check for reporting accuracy and correct common mistakes to ensure accurate financial reporting through the use of an Accounting Information System	Pre/Corequisite: 10-101-180 QUICKBOOKS 1.
SOCIAL MEDIA CAMPAIGNS 1 10104125 (3 credits) Incorporates an overview of contemporary social networking sites. The learner sets up, monitors, and measures a social media campaign. The learner examines how businesses embrace social media platforms to connect with consumers and increase awareness. Additionally, the learner explores the history and	

development of social media sites, along with analyzing the ethical and potential legal concerns that have arisen over this communication medium.	
TEAM BUILDING AND PROBLEM SOLVING 10196189 (3 credits) Apply the skills and tools necessary to facilitate team development and effectiveness, solve complex problems, pinpoint the root cause of conflict, and resolve issues between team members. Each learner will demonstrate the application of the benefits and challenges of teamwork, perform the necessary roles in a team, facilitate the stages of team development, conduct conflict resolution, evaluate potential causes of a problem, develop multiple approaches to problem solving and decision making, exhibit the ability to build consensus and commitment, utilize a systematic approach to defining and solving problems and implement various methods for evaluating results based on established criteria and metrics.	
VIDEO FOR SOCIAL MEDIA 10206160 (2 credits) Applies video production tools and techniques in the creation of video content for social media marketing. Learners explore the various ways that video is used for marketing across social media platforms, how to develop original video concepts for social media campaigns, and how to use consumer video production tools to create compelling video content for social media. Learners will create an original video product for use in a social media marketing campaign.	
WORD LEVEL 1 10103243 (1 credit) Introduces learners to the basic concepts of using Microsoft Word with hands-on, project based activities. Learners will develop foundational skills by applying concepts explored to start Word, create a new document, create business letters, flyers, brochures, research papers, resumes, work with SmartArt, apply basic formatting and more.	

Education and Training, Human Services, Law, Public Safety, Corrections, and Security

AMERICAN SIGN LANGUAGE 1 10533113 (2 credits Focuses on interactions using ASL among learners who have little or no knowledge of ASL and Deaf culture. Learners will learn the skills needed to communicate comfortably in a variety of situations. Cultural information is included throughout the course. Learners will interact with the Deaf community in way that demonstrates their cultural awareness and respect.	**Not always available to non-program students**
AMERICAN SIGN LANGUGE 2 10533114 (2 credits) Expands upon the learner's previously acquired ASL 1 course skills. ASL 2 skill development focuses on expanding sign vocabulary, receptive comprehension, conversational and narrative sign fluency. Learners will develop a better understanding of appropriate Deaf cultural behaviors comparing aspects of American culture and the learner's own culture. Learners will understand their role as a student in the Deaf community. ASL 2 is designed to immerse ASL learners in an ASL - only environment.	**Not always available to non-program students** Prerequisite: 10-533-113 AMERICAN SIGN LANGUAGE 1.
BOUNDARIES AND ETHICS IN THE HELPING PROFESSIONS 10550210 (3 credits) Analyze case scenarios to practice the process of ethical decision making. Evaluate the ethical codes of the helping professions to increase ability to apply these ethical principles to a variety of scenarios. Determine professional boundary issues. Incorporate ethical standards into decision making processes. Apply reflective practitioner methods.	
ECE: FOUNDATIONS OF ECE 10307148 (3 credits) Introduces the learner to the early childhood profession. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, investigate the history of early childhood education, examine regulatory requirements for early childhood education programs in WI, 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.	Fall or Spring
ECE: HLTH SAFETY & NUTRITION 10307167 (3 credits) Examines the topics of health, safety, and nutrition within the context of the early childhood educational setting. Course competencies include: integrate strategies that support diversity, cultural responsiveness, and anti-bias perspectives; examine governmental regulations and professional standards as they apply to health, safety, and nutrition; plan a safe early childhood environment; plan a healthy early childhood environment; plan nutritionally sound menus; examine child abuse and neglect issues and mandates; describe Sudden Infant Death Syndrome (SIDS) risk reduction strategies; describe strategies to prevent the occurrence of Abusive Head Trauma (AHT) formerly known as Shaken Baby Syndrome (SBS); incorporate health, safety, and nutrition concepts into the children's curriculum.	Fall or Spring
ECE: INFANT & TODDLER DEV 10307151 (3 credits) In this three-credit course, you will study infant and toddler development as it applies to an early childhood education setting. Course competencies include: integrate strategies that support diversity and anti-bias perspectives, analyze development of infants and toddlers (conception to three years), correlate prenatal and postnatal conditions with development, summarize child	Fall Only

development theories, analyze the role of heredity and the environment, examine culturally and developmentally appropriate environments for infants and toddlers, examine the role of brain development in early learning (conception through age three) and examine caregiving routines as curriculum.	
ECE: EARLY LANGUAGE & LITERACY 10307108 (3 credits) This course explores strategies to encourage the development of early language and literacy knowledge and skill building in children birth to 8 years of age. Learners will investigate the components of literacy including; literacy and a source of enjoyment, vocabulary and oral language, phonological awareness, knowledge of print, letters and words, comprehension and an understanding of books and other texts. Theories and philosophies regarding children's language and literacy development will be addressed. Dual language learning will be examined within the context of developmentally appropriate practices. Assessment tools for early language and literacy acquisition will be reviewed.	
EDU: CHILD & ADOL DEV 10522106 (3 credits) Provides an overview of physical, motor, perceptual, cognitive, social/emotional and growth and development birth through adolescence. Analyzes social, parental, cultural, brain, and economic influences on development.	Spring Only Pre/Corequisite: 10-522-104 EDU: TECHNOLOGY IN EDUCATION and 10-522-103 EDU: INTRO TO EDUC PRACTICES.
EDU: INTRO TO ED PRACTICES 10522103 (3 credits) Analyzes preK-12 education in the United States, determine roles and responsibilities of school personnel, and explore current trends and best practices. Learners identify how students learn and the foundations of lesson planning. Analyze assessment strategies, classroom management, and techniques for supporting learners.	Fall Only
EDU: TECHNOLOGY IN ED 10522104 (3 credits) Develops the knowledge and skills to use trending classroom technologies and gain experience creating and using web tools including portfolios. Learners create presentations for educational environments and identify ISTE Standards.	Fall Only
EMERGENCY MEDICAL RESPONDER (EMR)/ EMERGENCY MEDICAL TECHNICIAN (EMT) - PART 1 30531301 (2 credits) Provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies.	
EMERGENCY MEDICAL TECHNICIAN - PART 2 30531302 (3 credits) Provides the student with the skills to perform patient assessment, stabilize/immobilize injuries and provide basic treatment of medical emergencies.	Accepted into Emergency Medical Technician TD or Fire Science TD, and current Healthcare Provider CPR. Completion of 30-531-301 Emergency Medical Responder/ Emergency Medical Technician - Part 1 within one year of start date, or current State of WI

	Emergency Medical Responder License.
EXCEPTIONAL PERSON 10809138 (3 credits) Explore the diversity of exceptional individuals. Learners will develop an understanding of intellectual disability, giftedness, learning disabilities, emotional and behavioral disorders, visual impairments, hearing loss and various physical disabilities. Learning activities will focus on educational, legal and personal life issues.	
HUMAN SEXUALITY 10520106 (3 credits) Evaluate human sexual behavior across the lifespan. Evaluate the history of sex. Analyze sexology. Differentiate between gender roles. Identify physiological differences between sexes. Explore differences in sexual orientation, sexually transmitted diseases and methods of contraception. Analyze sexual abuse and sex for sale. Assess boundaries and ethical issues commonly found when discussing sexual issues with clients. Apply reflective practitioner methods.	
INTRODUCTION TO GERONTOLOGY 10520150 (3 credits) Examine the different issues that affect us as we age. Differentiate individual, social and community support. Investigate the prominent issues involved when working with the geriatric population in a variety of vocations. Construct a narrative of an elderly person across the lifespan. Assess boundaries and ethical issues commonly found when working with the aging population. Apply reflective practitioner methods.	
INTRODUCTION TO HUMAN SERVICES 10520101 (3 credits) Examine the evolution of the human services field. Distinguish the various types of human service agencies and occupations available in the field. Demonstrate the qualities of the field professionals. Assess boundaries and ethical issues commonly found in the human services professions. Apply reflective practitioner methods.	
INTRODUCTION TO INTERVIEWING AND COUNSELING SKILLS 10550206 (3 credits) Analyze foundational skills in the counseling relationship. Analyze the stages of the helping processes and the roles professionals play in the processes. Analyze the importance of establishing therapeutic relationships. Apply basic counseling techniques. Apply interviewing and counseling skills through mock counseling sessions and personal experience reflections. Examine issues of boundaries and ethics.	Pre/Corequisite: 10-520-101 INTRODUCTION TO HUMAN SERVICES.
ISSUES IN CHILD MALTREATMENT 10520141 (3 credits) Examine issues often found in families that are affected by child abuse and neglect. Explore the social, environmental and biological components of child maltreatment. Determine the laws, agencies and procedures that are specific to child maltreatment. Define the role played by the helping professional in response to child maltreatment, including mandated reporting of abuse. Assess boundaries and ethical issues commonly found while working with child maltreatment. Apply reflective practitioner methods.	Prerequisite: 10-809-188 DEVELOPMENTAL PSYCHOLOGY.

MARRIAGE & FAMILY 10809128 (3 credits) This course introduces the student to the sociological aspects of marriage and family life in contemporary American society. Emphasis is on the study of cognitive, emotional and behavioral patterns associated with courtship, love, mate selection, sexuality and marriage. Moreover, it discusses the life span development in the family life cycle, balancing work and family and parenting. This course is based on the premise that human attitudes, feelings and behaviors are largely shaped and influenced by philosophy, gender, communication and personal beliefs. Therefore, success in the institutions of marriage and family require knowledge and skills in the roles of spouse and parent and ways to apply concepts to daily life.	
ORGANIZATIONAL BEHAVIOR AND DEVELOPMENT 10196168 (3 credits) Apply the skills and tools necessary to effectively deal with organizational behavior and change. Each learner will: demonstrate the application of the impacts of globalization on an organization, deal with organizational culture, prepare for change and future challenges affecting organizations, assist in organizational decision making, planning, mission, vision and goal development, conduct performance management and understand the role of organizational structure.	
TALENT DEVELOPMENT 10196199 (3 credits) Apply the tools and skills necessary to implement the training cycle of assessment needed to develop human resources in organizations. In Training and Talent Development, learners will analyze organizational training needs, examine training task, develop training objectives, organize training content, determine appropriate training methods, select training recourses, complete a training plan, deliver training and assess the training process.	
UNDERSTANDING SUBSTANCE USE 10550110 (3 credits) Explore the history of drug use along with the changing historical trends of abuse. Examine various types of addictions. Depict the biology of psychoactive drugs as well as the etiology of addiction. Determine issues of boundaries and ethics. Apply reflective practitioner methods.	

Health Science

ADV ANATOMY & PHYSIOLOGY 10806179 (4 credits) Examines normal human anatomy and physiology using a body systems approach with emphasis on the interrelationships between form and function at the gross and microscopic levels of organization. Cellular metabolism and the individual components of body systems will be explored. Continued examination of homeostatic mechanisms and their relationship to fluid, electrolyte, acid-base balance and blood and integration of genetics to human reproduction and development are also included in this course.	Prerequisite: Letter grade of "C" or better in 10-806-177 GENERAL ANATOMY & PHYSIOLOGY
APPLIED MICROBIOLOGY 31806311 (2 credits) Provides an introduction to microbiology, cell and cell structure, genetics and cellular classifications, microbial life and growth, infectious disease process, microbial growth, bacterial interactions with the human body, immunology and specific bacterial class characteristics and pathogenicity.	
BLS (Basic Life Support) CPR 47531437 (0.10 credits) This American Heart Association approved course covers adult and pediatric CPR and FBAO, two-rescuer CPR, barrier devices and AED. The course focuses on the needs of the professional caregiver. Successful completion includes American Heart Association certification that is valid for two years. Textbook required, can be purchased at NTC's Campus Store.	
BODY, STRUCTURE & FUNCTION 10806110 (3 credits) Introduces structures and functions of normal human anatomy using a body systems approach. Learners will have the opportunity to demonstrate competency of select course objectives with the online simulated laboratory software. Provides a flexible, online introduction to the concepts of General Anatomy and Physiology.	
GEN ANATOMY & PHYSIOLOGY 10806177 (4 credits) 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. Intended to prepare health care professionals who need to apply basic concepts of anatomy and physiology to informed decision-making and professional communication in the clinical setting.	Student is highly recommended to have completed two semesters of high school chemistry or one semester of college chemistry with a "C" or better. Student is required to take the Pre-General A&P Assessment upon enrollment. All third attempts for enrollment require Dean/Assoc. Dean approval.
HUMAN BODY IN HEALTH & DISEASE 31509302 (3 credits) Students learn to recognize human body structure and function in health and disease states. Students explore the causes, signs, and symptoms of diseases of the major body systems as well as the diagnostic procedures, usual treatment, prognosis, and prevention of diseases commonly diagnosed and treated in the medical office setting.	Pre/Corequisite: 10-501-101 MEDICAL TERMINOLOGY.

INTRODUCTION TO BIOCHEMISTRY 10806186 (4 credits) Provides students with skills and knowledge of organic and biological chemistry necessary for application within Nursing and other Allied Health careers. Emphasis is placed on recognizing the structure, physical properties and chemical reactions of organic molecules, body fluids and acids. Additional emphasis is placed on biological functions and their relationships to enzymes, proteins, lipids, carbohydrates and DNA.	Pre/Corequisite: 10-806-177 GENERAL ANATOMY & PHYSIOLOGY.
MEDICAL TERMINOLOGY 10501101 (3 credits) Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.	
MEDICAL TERMINOLOGY 10501101 (3 credits) Focuses on the component parts of medical terms: prefixes, suffixes and word roots. Students practice formation, analysis and reconstruction of terms. Emphasis on spelling, definition and pronunciation. Introduction to operative, diagnostic, therapeutic and symptomatic terminology of all body systems, as well as systemic and surgical terminology.	
MICROBIOLOGY 10806197 (4 credits) Investigates historical perspectives of microbiology, microscopy, characteristics of procaryotic and eucaryotic microorganisms, control of microbial growth, microbial genetics, and classification of microorganisms, principles of disease, epidemiology, immunology and pathogenic microbiology.	Prerequisites: Letter grade of "C" or better in 10-806-177 GEN ANATOMY & PHYSIOLOGY or 10-091-172 VETERINARY MEDICAL TERMINOLOGY and 10-091-214 VERTEGRATE ANATOMY & PHYSIOLOGY 1.
NURSING ASSISTANT 30543300 (3 credits) Prepares learners to perform basic nursing skills under the supervision of a nurse for job entry as a certified nursing assistant (CNA) or a home health aide (HHA) in health care agencies. Face-to-face and hybrid classroom, campus lab and clinical instruction are offered at various nursing homes and hospitals throughout the district. Students need to submit an application and complete background check.	Must be 16 in order to enroll.

Information Technology

CISCO 1 - NETWORK COMMUNICATIONS 1 10150185 (3 credits) Examines both the practical and conceptual skills that build the foundation for understanding basic networking, including: introduction to the OSI and TCP/IP models; gain familiarity with the various network devices and network addressing schemes; and discover the types of media used to carry data across the network. By the end of this course, the learner will be able to build simple LANs, perform basic configurations for routers and switches and implement IP addressing schemes.	Pre/Corequisites: 10-154-102 IT SOFTWARE FUDAMENTALS.
CISCO 2 – NETWORK COMMUNICATIONS 2 10150186 (3 credits) Examines switching, routing, and wireless essentials including the architecture, components, and operations of routers and switches in small networks. Learners analyze wireless local area networks (WLAN) and security concepts. Learners apply configuration and troubleshooting techniques on routers and switches for advanced functionality using security best practices. Learners resolve common issues with protocols in both IPv4 and IPv6 networks.	Prerequisite: 10-150-185 CISCO 1 - NETWORK COMMUNICATIONS 1.
CISCO 3 – NETWORK COMMUNIATIONS 3 10150187 (3 credits) Examines the architecture, components, operations, and security for large, complex networks, including wide area network (WAN) technologies. Learners will configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation. Learners will configure and troubleshoot OSPFv2, ACLs, NAT, and QoS on IPv4 and IPv6 networks.	Prerequisite: 10-150-186 CISCO 2 - NETWORK COMMUNICATIONS 2.
FOUNDATIONS OF TECHNICAL SUPPORT 10154104 (3 credits) Introduces learners to the field of user support professionals. Learning will focus on providing quality customer support, problem solving while exploring software quality assurance, information technology project development methodologies and strategies for keeping current in an ever changing field.	Pre/Corequisite: 10-154-207 INTRODUCTION TO IT TECHNICAL SUPPORT.
INTRODUCTION TO IT TECHNICAL SUPPORT 10154207 (1 credit) Introduces learners to the field of IT technical support. Learners will further explore degree and career paths and assess their preparedness for success in the highly technical field of IT Technical Support.	
IT DEVELOPMENT AND DESIGN FUNDAMENTALS 10152500 (1 credit) Introduces the field of IT software development and design. Learners will explore degree and career paths, IT tools and processes and begin to demonstrate professional communication. Learners will create or modify a simple computer program using an integrated development environment.	*Set Due Dates
IT HARDWARE FUNDAMENTALS (previously Computer Fundamentals 1) 10154100 (3 credits) Introduces learner to terms, concepts and functions of personal computers. Demonstrate knowledge of proper function and use of computer internal and external components, system configuration, data backup and peripherals. Helps learner prepare for CompTIA's A+ Certification exams.	
IT SOFTWARE FUNDAMENTALS (previously Computer Fundamentals 2) 10154102 (3 credits) Learn advanced PC operating system structure, features and use. Explore in depth hard drive management, file sharing and command line. Helps learner prepare for CompTIA's A+ Certification exams.	Pre/Corequisite: 10-154-100 IT HARDWARE FUDAMENTALS.

PRINCIPLES OF INFORMATION SECURITY 10150114 (2 credits) Discover the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents and designing a consistent, reasonable information security system, with appropriate intrusion detection and reporting features.	
PROGRAMMING CONCEPTS A 10152501 (1 credit) Introduces programming concepts and terminology using an object-oriented approach, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications that incorporate classes, fields, methods and variables. Additional topics include: utilization of an Integrated Development Environment (IDE), value and reference types, object instantiation/lifetime/scope and mathematical/conditional/logical expressions.	*Set Due Dates Pre/Corequisite: 10-152-500 IT DEV & DESIGN FUNDAMENTALS
PROGRAMMING CONCEPTS B 10152502 (1 credit) Reinforces programming concepts and standards, building on the object-oriented approach introduced in 10-152-501 Programming Concepts A, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications, applying the object-oriented basics of abstraction and encapsulation. Additional topics include: utilization of a debugger, object multiplicity and constructors.	*Set Due Dates Pre/Corequisite: 10-152-501 PROGRAMMING CONCEPTS A.
PROGRAMMING CONCEPTS C 10152503 (1 credit) Emphasizes programming concepts and standards, building on the object-oriented approach of 10-152-502 Programming Concepts B, with a focus on iterative development and testing. This course uses C# .NET, the Unified Modeling Language (UML) and other tools to present concepts from a variety of perspectives. Learners will create UML diagrams and write/debug C# .NET applications, applying the object-oriented basics of abstraction, encapsulation, inheritance.	*Set Due Dates Pre/Corequisite: 10-152-502 PROGRAMMING CONCEPTS B.
SERVICE SKILLS 10154111 (3 credits) Applies the elements of high customer satisfaction in a real life setting. Learners analyze the "soft skills" and self-management skills needed in a computer support setting. Learners will learn to provide effective customer service and support in a technical environment.	Prerequisite: 10-154-104 FOUNDATIONS OF TECHNCIAL SUPPORT
TROUBLESHOOTING 10154151 (3 credits) Develop hardware and software troubleshooting skills by solving computer-related problems. Learner will use textual and online resources, document successful solutions and add them to a personal knowledge base.	Prerequisites: 10-154-102 IT SOFTWARE FUNDAMENTALS
WINDOWS SERVER 1 10150121 (3 credits) Provides the student with a thorough grounding in Windows® Server®. Once the student completes the competencies for this class, they will be able to install, configure and administer a Microsoft® Windows® Server operating system. This course will place the student on the correct track in becoming a Microsoft Certified Solutions Associate (MCSA).	Prerequisites: 10-154-102 IT SOFTWARE FUNDAMENTALS

General Studies

CALCULUS 1 10804198 (4 credits) Analyze and graph algebraic expressions, especially conic sections. Develop an intuitive understanding of limits, derivatives and integrals. Apply the derivative and the integral to certain physical problems.	Prerequisite: 10-804-195 COLLEGE ALGEBRA W/APPS.
CENTS & SENSIBILITY 10809101 (1 credit) Economic Skills is a practical study of consumer problems and consumer choice. This course is designed in an individualized, self-paced format with emphasis on developing the skill of consumer decision-making. Selected topics include: budgeting and family resource management, sources of consumer information, help in solving consumer problems and consumer decision-making in such areas as transportation, insurance, financial institutions, consumer goods and services, housing and credit.	
COLLEGE ALGEBRA W/APPS 10804195 (3 credits) This course covers those skills needed for success in Calculus and many application areas on a baccalaureate level. Topics include the real and complex number systems, polynomials, exponents, radicals, solving equations and inequalities (linear and nonlinear), relations and functions, systems of equations and inequalities (linear and nonlinear), matrices, graphing, conic sections, sequences and series, combinatories and the binomial theorem.	Prerequisite: 10-804-118 INTERMEDIATE ALGEBRA W/APPS.
COLLEGE MATHEMATICS 10804107 (3 credits) This course is designed to review and develop fundamental concepts of mathematics pertinent to the areas of: 1) arithmetic and algebra; 2) geometry and trigonometry; and 3) probability and statistics. Special emphasis is placed on problem solving, critical thinking and logical reasoning, making connections and using calculators. Topics include performing arithmetic operations and simplifying algebraic expressions, solving linear equations and inequalities in one variable, solving proportions and incorporating percent applications, manipulating formulas, solving and graphing systems of linear equations and inequalities in two variables, finding areas and volumes of geometric figures, applying similar and congruent triangles, converting measurements within and between U.S. and metric systems, applying Pythagorean Theorem, solving right and oblique triangles, calculating probabilities, organizing data and interpreting charts, calculating central and spread measures and summarizing and analyzing data.	
DEVELOPMENTAL PSYCHOLOGY 10809188 (3 credits) Developmental Psychology is the study of human development throughout the lifespan. This course explores developmental theory and research with an emphasis on the interactive nature of the biological, cognitive and psychosocial changes that affect the individual from conception to death. Application activities and critical thinking skills will enable students to gain an increased knowledge and understanding of themselves and others.	
ENGLISH COMPOSITION 1 10801136 (3 credits) This course is designed for learners to develop knowledge and skills in all aspects of the writing process. Planning, organizing, writing, editing and revising are applied through a variety of activities. Students will analyze audience and purpose, use elements of research and format documents using standard guidelines. Individuals will develop critical reading skills through analysis of various written documents.	

GENERAL BIOLOGY 10806114 (4 credits) Introduces general biological concepts and principles. Emphasis is on cell structure and function, genetics, evolution and taxonomical relationships. Consideration is also given to diversity among the various kingdoms.	
INTERMEDIATE ALGEBRA W/APPS 10804118 (4 credits) This course offers algebra content with applications. Topics include properties of real numbers, order of operations, algebraic solution for linear equations and inequalities, operations with polynomial and rational expressions, operations with rational exponents and radicals, algebra of inverse, logarithmic and exponential functions.	
INTRODUCTION TO DIVERSITY STUDIES 10809172 (3 credits) 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 relationships in a multicultural context, the primary topics of race, ethnicity, age, gender, class, sexual orientation, disability and religion are explored.	
INTRODUCTION TO ETHICS: THEORY & APP 10809166 (3 credits) This course provides a basic understanding of the theoretical foundations of ethical thought. Diverse ethical perspectives will be used to analyze and compare relevant issues. Students will critically evaluate individual, social and/or professional standards of behavior and apply a systematic decision-making process to these situations.	
INTRODUCTION TO MASS COMMUNICATION 10801141 (3 credits) Explores communication in media and media literacy by providing insight into the important issues that confront students as consumers and purveyors of mass media within the workforce and in society. The mass media revolution, including media technologies, the evolution of media content and platforms, including new media, the impact of media communications on business and society as a whole, media bias, and media law and ethics from the basis of the course.	
INTRODUCTION TO PSYCHOLOGY 10809198 (3 credits) 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.	
INTRODUCTION READING & STUDY SKILLS 10838105 (3 credits) This course provides learners with opportunities to develop study skills and expand reading skills including comprehension, fluency and vocabulary skills. Learners apply reading skills to academic tasks and read to acquire information	

from a variety of sources. This course does not meet the General Studies course requirements for graduation in Associate Degree programs.	
INTRODUCTION TO SOCIOLOGY 10809196 (3 credits) 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.	
INTRODUCTORY STATISTICS 10804189 (3 credits) Students taking Introductory Statistics display data with graphs, describe distributions with numbers, perform correlation and regression analyses and design experiments. They use probability and distributions to make predictions, estimate parameters and test hypotheses. They draw inferences about relationships including ANOVA.	A score of 50 or higher on the Accuplacer for algebra or 18 or higher ACT score or 10-804-107 COLLEGE MATH or 10-804-123 MATH W/BUSINESS APPS or 10-804-133 MATHEMATICS AND LOGIC or 10-504-118 INTERMEDIATE ALGEBRA W/APPS or 10-804-195 COLLEGE ALGEBRA or 10-804-198 CALCULUS 1 with a grade of 'C' or better.
MATH & LOGIC 10804133 (3 credits) Students will apply mathematical problem solving techniques. Topics will include symbolic logic, sets, algebra, Boolean algebra and number bases.	
MATH WITH BUSINESS APPLICATIONS 10804123 (3 credits) This course covers real numbers, basic operations, linear equations, proportions with one variable, percents, simple interest, compound interest, annuity, apply math concepts to the purchasing/buying process, apply math concepts to the selling process and basic statistics with business/consumer applications.	
MICROECONOMICS 10809143 (3 credits) Examines the behavior of individual decision makers, primarily consumers and firms. Topics include choices of how much to consume and to produce, the functioning of perfectly and imperfectly competitive markets, the conditions under which markets may fail, and arguments for and against government intervention. The student applies the fundamental tools of economics to real world problems.	
ORAL/INTERPERSONAL COMMUNICATION 10801196 (3 credits) Focuses upon developing speaking, verbal and nonverbal communication and listening skills through individual presentations, group activities and other projects.	

PSYCHOLOGY OF HUMAN RELATIONS 10809199 (3 credits) Explores the relationship between the general principles of psychology and our everyday lives. Students are given the opportunity to achieve a deepened sense of awareness of themselves and others. This understanding enables students to improve their relationships with others at work, in the family and in society.	
SPEECH 10801198 (3 credits) Explores the fundamentals of effective oral presentation to small and large groups. Topic selection, audience analysis, methods of organization, research, structuring evidence and support, delivery techniques and other essential elements of speaking successfully, including the listening process form the basis of the course.	
SURVEY OF PHYSICS 10806139 (3 credits) Presents the applications and theory of basic physics principles. This course emphasizes problem solving, laboratory investigation and applications. Topics include laboratory safety, unit conversions and analysis, kinematics, dynamics, work, energy, power, temperature and heat.	
THINK CRITICALLY & CREATIVELY 10809103 (3 credits) Provides instruction about critical and creative thinking that is in high demand in all occupations. Models, theories, and processes provide the foundation for learning logical thinking strategies. Students will apply a systematic approach to problem solving by analyzing the problem, assessing possible solutions, and making effective decisions. In addition, students will generate ideas and analyze complex issues. This course assists students with developing a critical thinking mindset which is essential at every level of personal and professional life.	
TRIGONOMETRY W/APPS 10804196 (3 credits) Topics include circular functions, graphing of trigonometry functions, identities, equations, trigonometric functions of angles, inverse functions, solutions of triangles complex numbers, De Moivre's Theorem, polar coordinates and vectors.	Prerequisite: 10-804-118 INTERMEDIATE ALGEBRA W/APPS or 10-804-195 COLLEGE ALGEBRA W/APPS.
WRITTEN COMMUNICATION 10801195 (3 credits) Develops writing skills which include prewriting, drafting, revising and editing. A variety of writing assignments are designed to help the learner analyze audience and purpose, research and organize ideas and format and design documents based on subject matter and content. Also develops critical reading and thinking skills through the analysis of a variety of written documents.	