



Great Oaks™

CAREER CAMPUSES

Diamond • Laurel • Live • Scarlet

Great Oaks Career Campuses

Course Guide

2023-24 School Year

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Welcome to Great Oaks Career Campuses!

Great Oaks provides high quality career-technical and academic programs to meet the needs of students and our communities. These programs provide experiential learning options for students and expand the paths that our affiliated schools can offer.

Great Oaks classes integrate academics with technical skill development to help prepare our students for higher-level courses in college as well as professional certifications.

This guide details the courses included in each career major as well as the academic offerings at Great Oaks campuses. It is intended to help students and staff plan for current class schedules and future graduation.

Career Technical Assurance Guides (CTAG) – The Career Technical Courses listed with “CTAG” are courses that if successfully completed are eligible for college credit at an Ohio public college or university in an approved post-secondary pathway. Some of the CTAG credits are combined with successful completion of an industry credential and/or passage of WebXams, which are end of course assessments for our Career and Technical courses.

For more information on CTAG go to: <https://transfercredit.ohio.gov/>

NOTE: The phrase “Credit Recommendation” appears throughout this guide; this is the credit that Great Oaks recommends to affiliated high schools for successful completion of the course.

Great Oaks does not discriminate on the basis of race, color, national origin, sex, disability, or age for participation in any program or activity. Lack of English language proficiency will not be a barrier to admission and participation in career-technical education programs or courses does not discriminate on the basis of disability or any other protected class factor.

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Academic Courses

English Courses

English 11

Subject Code: 050180

All Year

Credit Recommendation: 1.0

This course is devised to help students build on their present views, thoughts, and beliefs through carefully crafted thematic units. Students will closely read and analyze a variety of print and non-print texts each quarter to gain an understanding of multiple perspectives while beginning to determine and question their own. Students will communicate their analysis through a variety of formats including essay and authentic writing opportunities, project-based learning, interpersonal communication and global discourse. Class structure, activities, and assessments are intentionally created to support a diverse classroom and working environments.

English 12

Subject Code: 050190

All Year

Credit Recommendation: 1.0

This course was devised to help students build and apply their reading, writing, speaking, and listening skills for real-world, authentic application. This course is intentionally designed to support the senior student as they transition to life after high school. The class focuses on building the essential interpersonal and workplace communication skills that contribute to ongoing success. Throughout this course, students will focus on goal setting and reflection, research for industry and self-improvement, increasing their digital literacy and online presence, and crafting their professional story. This course will also center on the fundamentals of effective speaking and listening, technical and narrative writing, research, developing a personal brand, and critical workplace skills to prepare students for the 4th Industrial Revolution.

Advanced English Comp (A)

Subject Code: 059930

Semester 1

Credit Recommendation: 0.5

This course will focus on developing skills in college-level writing, reading, communication, and critical thinking. Writing is a process, and your writing can be refined and improved with practice. In this course, you will write formal revised essays, as well as additional directed writing, including response, analysis and critique of various assigned texts. In addition, you will collaborate with peers to develop your ideas, create drafts and revisions of your essays, and extend your ability to craft persuasive arguments by presenting and documenting credible secondary material in support of your position.

Advanced Literature and Composition

Subject Code: 059930

All Year

Credit Recommendation: 1.0

A foundational course for students who plan to enroll in CCP English and/or continue their education after graduation. This course is centered around the reading, writing, language, and speaking/listening benchmarks of the English Language Arts Academic Content Standards. Analyzing and interpreting multiple genres and periods of literature combined with a variety of writing opportunities that focus on building higher-level thinking skills will be prominent in this course. Students will be expected to participate in seminar-style discussions, collaborative projects, as well as independent study. The course will also develop test-taking strategies and preparation for the ACT.

Math Courses

Algebra II

Subject Code: 110302

All Year

Credit Recommendation: 1.0

This course is a continuation of Algebra I. Topics of study will include polynomial, rational, trigonometric, exponential and logarithmic functions, sequences and series, complex numbers and conditional probability, interpreting data and making inferences, including applications that develop problem solving and modeling techniques. Conceptual understanding and utilizing algebra as a problem-solving tool will be emphasized.

Calculus

Subject Code: 110600

All Year

Credit Recommendation: 1.0

This course has been designed for those students who have shown significant mastery of algebraic and trigonometric skills. Students are exposed to studies in many rigorous topics including limits, continuity, differentiation, definition of the integral which is a fundamental theorem of calculus, exponential, logarithmic, and trigonometric functions. Students will also study various applications including slope and area of non-linear functions, motion of objects and growth and decay. Mathematical applications will include economics, construction and business practices.

Financial Algebra

Subject Code: 110500

All Year

Credit Recommendation: 1.0

This course is an algebra-based/applications-oriented, technology dependent course that is a hybrid of advanced algebra, pre-calculus, and statistics and is based on Ohio's Learning Standards. It builds on the foundation of algebra and focuses on the mathematics of the stock market, modeling business, banking services, consumer credit, property ownership, employment, income taxes, independent living, retirement and budgeting. Students can choose this course as an elective or as an Algebra II equivalent to meet graduation requirements.

Geometry

Subject Code: 111200

All Year

Credit Recommendation: 1.0

This course examines theorems, properties, vocabulary and concepts and shapes. Congruence, similarity, area, and volume of both two and three-dimensional figures will be studied. Transformations and coordinate geometry are topics throughout the course. Logical deductive reasoning will be developed along with an appreciation of geometry as a means of describing the physical world as prescribed in Ohio's Learning Standards.

Math Principles for Programming (Live)

Subject Code: 110099

All Year

Credit Recommendation: 1.0

This course is a math elective. Students will acquire foundational knowledge in data science, computer principles, and basic programming skills. Through the use of mathematics and computer science methods, students will analyze and interpret data to make predictions and decisions. Problem solving and reasoning skills will be developed through logic and algorithmic activities to analyze data to design increasingly complex computer applications.

Successful prior completion of Geometry and Algebra II is required for this course.

Medical Math**Subject Code: 119999****MCT (Advanced Math - Equivalent to Algebra 2) All Year Credit Recommendation: 1.0**

A math course specifically for students in the Pre-Nursing, Sports Medicine, Dental Assisting, Veterinarian Assisting, Firefighting/Emergency Medical Services, Surgical Technology and Health Technology programs. By the end of this course, you should be able to read and interpret and/or complete labels and graphs related to health science; calculate and apply appropriate statistical concepts such as mean, median, and mode; accurately compute with fractions, decimals, percentages, ratios and proportions as needed for a variety of health science applications; and convert appropriate units of measurement between and within the metric, household and apothecary systems and systems of time, temperature, length, and weight.

Pre-Calculus**Subject Code: 110099****All Year****Credit Recommendation: 1.0**

This course will further expand the understanding of concepts experienced in the previous courses of Algebra, Geometry and Advanced Algebra (Algebra II). Based on Ohio's Learning Standards, the course will focus on these critical areas: complex number system and operations, matrix operations and applications, vector operations, solving systems of equations, family of functions, modeling and creating functions, trigonometric functions and the unit circle.

Technical Math**Subject Code: 119999****MCT (Advanced Math - Equivalent to Algebra 2) All Year Credit Recommendation: 1.0**

A math option for students in Precision Machining, Robotics, or other Trade & Industry programs which applies mathematics to solve problems commonly encountered in related fields. By the end of this course, you should be able to demonstrate the ability to graph equations of lines; compute with fractions, decimals, percentages, ratios and proportions as needed for a variety of applications; calculate perimeter, area and volume of basic 2 and 3 dimensional geometric objects; and demonstrate the ability to solve linear equations.

Science Courses**Anatomy and Physiology****Subject Code: 139998****All Year****Credit Recommendation: 1.0**

This course explores the structure and the function of the human body. Students study the ways the human body maintains its internal environment and the chemical and electrical controls that help co-ordinate the human body systems. Diseases and disorders of the human body are also investigated. Students engage in inquiry-based laboratory experiences that incorporate scientific reasoning, analysis, communication skills and real-world applications.

Chemistry**Subject Code: 130301****All Year****Credit Recommendation: 1.0**

This course is based on Ohio's Learning Standards and will study the structure of matter, how matter interacts and the exploration of the classification of matter. Investigations are used to understand and explain the behavior of matter. By using metric measuring systems, significant digits, scientific notation, error analysis and dimensional analysis, students learn to communicate scientifically. An understanding of leading theories and how they have informed current knowledge prepares students with higher order cognitive capabilities of evaluation, prediction and application.

Environmental Science**Subject Code: 132350****All Year****Credit Recommendation: 1.0**

This course incorporates biology, chemistry, physics and physical geology by exploring the interconnectedness of Earth's sphere. Investigations are used to understand and explain the behavior of nature in a variety of inquiry and design scenarios that incorporate scientific reasoning, analysis, communication skills and real-world applications. Topics include study of the atmosphere, hydrosphere, lithosphere, global environmental problems and issues per Ohio's Learning Standards.

Forensics (Scarlet)**Subject Code: 139998****All Year****Credit Recommendation: 1.0**

The foundations forensic science course focuses on practices and analysis of physical evidence found at crime scenes. The fundamental objective is to teach the basic processes and principles of scientific thinking and apply them to solve problems that are science related, and require critical thinking skills. Topics will include: Introduction to Forensic Science and the Law, Types of Evidence, The Crime Scene, Fingerprints, Hair, Fibers, Drugs, Toxicology: Poisons and Alcohol, Trace Evidence, Soil and Glass Analysis, Blood, DNA Analysis, Forensic Entomology, Human Remains, Firearms, Tool-marks and Impressions, Document and Handwriting analysis, Cybercrime, and Forensic Psychology.

Materials Science Chemistry**Subject Code: 139998****All Year****Credit Recommendation: 1.0**

This course focuses on the study of materials we use every day. Four major units of study form the basis of the MSC course: solids, metals, ceramics/glass and polymers. Each unit will include a study of the properties and basic chemistry of that particular group of materials. Testing methods and manufacturing processes will also be investigated. A multi-instructional approach is used that appeals to many learning styles. This approach focuses on solving problems, creating student projects, working in small groups on open-ended experiments, writing as a means of learning, participating in demonstrations and activities, using experts in materials, and using a large variety of written resources and videos.

Physics**Subject Code: 130302****All Year****Credit Recommendation: 1.0**

This course is based on Ohio's Learning Standards and elaborates on the study of the key concepts of motion, forces and energy as they relate to increasingly complex systems. Students engage in investigations to understand and explain motion, forces and energy in a variety of inquiry and design scenarios that incorporate scientific reasoning, analysis, communication skills and real-world applications. Projectiles, momentum and motion, energy and waves, electricity and magnetism are among the concepts studied.

Social Studies Courses**Contemporary World Issues (A)****Subject Code: 150890****Semester 1****Credit Recommendation: 0.5**

Contemporary World Issues is devoted to studying the historical origins and demographics of the current foreign policy issues that confront the United States today. Unit topics include the culture, physical geography, current leadership, and form of government for each country; and the key individuals and major events that have contributed to each nation being a focus. The topics within the course will be explored and evaluated by examining history timelines for the United States and each country studied to understand how each nation became a current foreign policy issue for the United States. Students will also enhance their literacy skills through required reading assignments and short written essays at the end of each unit describing how each country reached its current situation with the

United States. During the first semester of this course, students will focus on the history and relations between the United States and Afghanistan, Iraq, Iran and Syria (Middle East).

Contemporary World Issues (B)

Subject Code: 150890

Semester 2

Credit Recommendation: 0.5

Contemporary World Issues is devoted to studying the historical origins and demographics of the current foreign policy issues that confront the United States today. Unit topics include the culture, physical geography, current leadership, and form of government for each country; and the key individuals and major events that have contributed to each nation being a focus. The topics within the course will be explored and evaluated by examining history timelines for the United States and each country studied to understand how each nation became a current foreign policy issue for the United States. Students will also enhance their literacy skills through required reading assignments and short written essays at the end of each unit describing how each country reached its current situation with the United States. During the second semester of this course, students will focus on the history and relations between the United States and North Korea, China (Asia), and Russia (Eurasia), as well as American Foreign Policy Structure & Organizations.

American History

Subject Code: 150810

All Year

Credit Recommendation: 1.0

This course examines the history of the United States of America from 1877 to the present. Students will gain an understanding of how the federal republic's experience with challenges to its national security happened and how expansion of citizens' rights has impacted challenges for the United States. Students will develop an understanding of their role as citizens and an understanding of the rights and responsibilities of citizenship. Students will be able to comprehend complex history texts and develop the skills necessary to write analyses incorporating details and facts to communicate effectively as prescribed in Ohio's Learning Standards.

Economics

Subject Code: 150600

Semester Course

Credit Recommendation: 0.5

This course explores the major forces that act on individuals and nations as they make choices about how to use limited resources. Students will also learn basic financial literacy. Topics of study include the making of fiscal and monetary policy, the relationship between buyers and sellers, the structure and function of the global economy, the dynamics of working and earning, saving and investing, credit and debt, and money management.

Government

Subject Code: 150300

All Year

Credit Recommendation: 1.0

This course explores the philosophical foundations and inner workings of American government. Students learn the fundamentals of civic involvement, the contents of the U.S. Constitution, the structure and functions of the federal government, the broad role of the individual in a free society, the influence of federalism in Ohio's state and municipal governance, the creation and implementation of public policy, and government's role in the economy. Students will gain an understanding of complex history texts and develop the skills necessary to write analyses incorporating details and facts to communicate effectively as prescribed in Ohio's Learning Standards. Students also learn basic financial literacy.

Sociology**Subject Code: 151300****Semester Course****Credit Recommendation: 0.5**

This course explores the factors that influence individual and group behavior. Students will study how groups, family structure, institutions and cultural variations influence an individual's behavior. Students will be encouraged to develop objective attitudes through reading, experiments, discussions, surveys, and polls.

Workplace Sociology**Subject Code: 151300****Semester Course****Credit Recommendation: 0.5**

This course explores topics like human behavior and communication in the workplace, as well as workplace organization, conflict, and culture. Students will take two industry credential assessments: Rise Up Retail Industry Fundamentals and Customer Service & Sales that are each worth 6 industry credential points. The course is designed to prepare students with transferable skills unitize in any career field and earn credentials that can help them as they enter the workforce.

Junior Reserve Officer Training Corps (JROTC) (Diamond, Live & Scarlet)**Subject Code: 220001****All Year****Credit Recommendation: 1.0**

Junior Reserve Officer Training Corps (JROTC) is a program that is offered at the high school level and teaches students the value of citizenship, leadership, service to the community, personal responsibility, and a sense of accomplishment, while instilling in them self-esteem, teamwork, and self-discipline. JROTC provides instruction on the dual role of citizen/soldiers to better prepare high school students for responsible leadership roles while making them aware of their rights, responsibilities, and privileges as American citizens. The course promotes graduation from high school and provides instructional opportunities which benefit the student, community and nation. Wearing the military uniform once a week is a requirement to participate in JROTC. While in uniform, cadets must meet the minimum appearance standards listed in the appropriate regulation, including haircut standards. The following branches are represented at Great Oaks: Diamond Oaks - Army JROTC, Live Oaks - Army JROTC and Scarlet Oaks - Navy JROTC.

JROTC II**Subject Code: 220001****All Year****Credit Recommendation: 1.0**

This course is for students enrolled in their 2nd year of JROTC.

JROTC III**Subject Code: 220001****All Year****Credit Recommendation: 1.0**

This course is for students enrolled in their 3rd year of JROTC.

JROTC IIII**Subject Code: 220001****All Year****Credit Recommendation: 1.0**

This course is for students enrolled in their 4th year of JROTC.

College Credit Plus

Students who meet the qualification requirements may enroll in College Credit Plus options. These students will earn both high school credit for the subject plus college credits after successful completion of the course. The college credits will appear on the student's Hocking College/Sinclair Community College transcript. For example, a student passes College English and receives credit for high school English, plus earns four semester college credits. All options are one-year courses offered in partnership with Hocking College and Sinclair Community College.

Course	College Course Number	CCP Provider	Diamond	Laurel	Live	Scarlet
English						
CCP English Comp 1	ENG 1101	Sinclair	FF	FF	FF	FF
CCP English Comp 1	ENG 1101	Sinclair	OL	OL	OL	OL
CCP English Comp II	ENG 1201	Sinclair	OL	OL	OL	OL
Math						
CCP College Algebra	MAT 1470	Sinclair	OL	OL	OL	OL
CCP Intro to Stats	MAT 1450	Sinclair	OL	OL	OL	OL
Science						
CCP Body Structure and Function	BIO 1101	Sinclair	OL	OL	OL	OL
CCP Introduction to Chemistry	CHM 1111	Sinclair	OL	OL	OL	OL
CCP Intro to Physics	PHY 1100	Sinclair	OL	OL	OL	OL
Government/Social Sciences						
CCP American Federal Government	PLS 1120	Sinclair	OL	OL	OL	OL
CCP General Psychology	PSY 1100	Sinclair	OL	OL	OL	OL
CCP Introduction to Sociology	SOC 1101	Sinclair	OL	OL	OL	OL

FF = Face-to-face instruction
OL = Online instruction

Career Programs

Animal Science and Management (Laurel & Live)

Level I:

Credit Recommendation: 3.0

Companion Animal Selection, Nutrition & Management

Subject Code: 010925

All Year

Students will identify and apply responsible animal science principles and routine husbandry practices to companion animals. Topics will include principles and practices of nutrient utilization, breeding programs and management of facility/housing design, meal plans and general care practices. Students will apply knowledge of companion animal care to enhance animal growth, enrichment, training, and education engagement programs. Throughout the course, students will follow practices for care and legal compliance in relation to classification of animals.

Animal Health

Subject Code: 010915

All Year

Students will examine causes, symptoms, and treatment of common diseases with emphasis on developing preventative health management plans. Topics will include the study of pathogens and classifying types of diseases and disorders. Students will perform animal health assessments and compare to standard characteristics. Throughout the course, students will utilize principles of technology to manage information systems and research issues affecting the industry.

Level II:

Credit Recommendation: 3.0

Business Mgt. for Agricultural & Environmental Systems (CTAG)

Subject Code: 010115

All Year

Students will examine elements of business, identify organizational structures and apply management skills while developing business plans, financial reports and strategic goals for new ventures or existing businesses. Learners will use marketing concepts to evaluate the marketing environment and develop a marketing plan with marketing channels, product approaches, promotion and pricing strategies. Throughout the course, students will apply concepts of ethics and professionalism, while implications of business regulations will be identified.

Animal Science and Technology (CTAG)

Subject Code: 010910

All Year

Students will learn and apply responsible animal management principles and routine husbandry practices. Topics will include nutrition, feeding and caring for animals, body/carcass composition evaluation, and applying marketing principles to the sale and distribution of animal products. Learners will investigate animal genetics and how it impacts principles of animal improvement, selection and marketing. Throughout the course, learners will develop business leadership, problem-solving and communication skills in relation to the science of animals.

Automotive Refinishing & Collision Repair (Diamond, Laurel, Live, Scarlet)

Level I:

Credit Recommendation: 3.0

Painting and Refinishing

Subject Code: 177012

Semester 1

Students will restore and refinish vehicle exterior body and paint finish. Students will inspect and identify substrate, type of finish, surface condition, and film thickness; and develop and execute a plan for refinishing using a total product system. Students will inspect, clean, and determine condition of spray guns and related equipment. Additionally, students will observe safety precautions when using hazardous materials.

Nonstructural Inspection**Subject Code: 177011****Semester 2**

Students will learn the skills and knowledge of automotive body panel repairs, replacements, and adjustments. Students will analyze, document and repair nonstructural collision damage. Students will remove corrosion protection, undercoating, sealer, and other protective coatings as necessary to perform repairs. Emphasis will be given to joining and cutting aluminum, steel and other metals. Students will maintain tools and facilities while complying with personal and environmental safety practices.

Level II:**Credit Recommendation: 3.0****Structural Inspection and Repair****Subject Code: 177010****Semester 1**

Students will perform automotive collision repair of full and uni-body frames and attach non-structural components. Students will apply the skills and knowledge needed to measure and diagnose structural damage, create a parts list, and determine labor costs. Students will remove and replace damaged structural components. Emphasis will be given to joining and cutting aluminum, steel and other metals. Students will maintain tools and facilities while complying with personal and environmental safety practices.

Electrical and Mechanical Systems**Subject Code: 177009****Semester 2**

Students will perform inspections and repair electrical and mechanical damage due to collision. Topics include electrical and wiring harness, suspension, braking and cooling system repairs. Students will service supplemental restraint systems (SRS) and ensure the integrity of the systems.

Automotive Service Technician (Diamond, Laurel, Live, Scarlet)**Level I:****Credit Recommendation: 3.0****Ground Transportation Maintenance (CTAG available ASE)****Subject Code: 177000****Semester 1**

In this first course, students will apply skills needed to inspect and perform general service on vehicles. Students will research applicable service information and technical service bulletins, and perform maintenance on vehicles. Students will inspect and service engine, drive train, suspension, steering, electrical and braking systems. Students will perform ignition maintenance including spark plug/glow plug and ignition wire and coil pack replacement. Additionally, students change fluids, filters and inspect vehicles for leaks and fluid condition.

Automotive Braking Systems**Subject Code: 177030****Semester 2**

Students will perform inspections, troubleshoot malfunctions and service automotive undercarriage systems. Students will identify poor performing hydraulic brake systems and replace malfunctioning components. Additionally, students will disable and enable supplemental restraint systems (SRS) and replace antilock brake systems components.

Level II:**Credit Recommendation: 3.0****Ground Transportation Electrical/Electronic****Subject Code: 177002****Semester 1**

Students will diagnose and repair vehicle electrical systems including chassis electrical, charging, starting and lighting systems. Students will learn the fundamentals of direct current (DC) electronics including series, parallel, and series-parallel circuits. Students will use electronic diagnostic tools, read schematics,

and utilize printed and electronic repair manuals to troubleshoot electrical circuits, test components and replace defective modules.

Automotive Engine Performance

Subject Code: 177006

Semester 2

Students will research vehicle service histories using model specific service bulletins. Students will test and diagnose for engine performance in fuel, air induction and exhaust systems using advanced testing procedures. Topics include computerized engine controls including retrieving and recording diagnostic trouble codes using On Board Diagnostics (OBD). Additionally, students will diagnose drivability and emissions problems resulting from malfunctions of interrelated systems.

Aviation Maintenance Technician (Diamond & Laurel)

Level I:

Credit Recommendation: 3.0

Aviation (CTAG)

Subject Code: 177013

All Year

In this first course, students apply knowledge of aviation theory and navigation to flight performance and planning. Students will apply principles of simple machines and fluid mechanics to aircraft operations. Identification of aircraft engines and airframe related systems will be emphasized. Weather theories and concepts are used to interpret weather-briefing documents. Additionally, students will distinguish among airport environments and understand rules, regulations and orders relevant to the airport industry.

Aviation Ground Maintenance (CTAG)

Subject Code: 177014

All Year

Students will apply knowledge of aircraft ground handling safety procedures to aviation maintenance. Students will start, ground operate, service, and secure aircraft. Students will perform aircraft maintenance including detecting, identifying, removal, and treating of various types of corrosion found on ferrous and non-ferrous metals. In addition, students will identify methods of cleaning aircraft and aircraft components. The course content also focuses on developing communication, leadership, human relations and employability skills; and safe, efficient work practices.

Level II:

Credit Recommendation: 3.0

Aviation Structure and Design

Subject Code: 177015

Semester 1

Students will inspect, repair, and refinish aircraft airframes and external components. Students will rig rotary and fixed-wing aircraft and evaluate and repair sheet metal and nonmetallic structures. Students will form, lay out, bend and join metal airframe components using welding processes, rivets and fasteners. Students will inspect, repair and assemble wooden, metal, aluminum, fiberglass and composite components. Students will inspect and repair external finishes including surface preparation and refinishing.

Aircraft Airframe Systems and Components

Subject Code: 177016

Semester 2

Students will learn the principles of avionics and practical application of AC/DC electrical circuits with an emphasis on airborne installations. Students will learn power calculations and the relationship of voltage, current, and resistance. Students will inspect, repair, and install instrument, communication and navigation systems. Additionally, students will evaluate and service airframe electrical systems including position, warning, hazard control, and ignition systems.

CareerX (Diamond, Laurel, Live, Scarlet)

One Year Program

Subject Code: 990371

Credit Recommendation: 5.0

All Year

CareerX is an entry-level transition high school program focused on career exploration and employability skills training for students with special needs. Students explore 5 career areas (processing/production, consumer/service, computer technology, construction/industrial, and business/marketing) through a series of activities. Students narrow their interests, skills and aptitudes in order to move to their next transitional step toward competitive employment. Students will also have the opportunity to learn real-world entry-level job skills in partnership with local businesses.

CareerX Lab

Subject Code: 990405

All Year Credit Recommendation: 3.0

This course supplements the CareerX Lab and the credits are determined based on the student needs.

English CareerX

Subject Code: 059999

All Year Credit Recommendation: 1.0

This English course is provided based on the student needs for graduation.

Math CareerX

Subject Code: 119999

All Year Credit Recommendation: 1.0

This Math course is provided based on the student needs for graduation.

CNC Advanced Manufacturing Technologies (Diamond & Live)

Level I:

Credit Recommendation: 3.0

Machining with Industrial Lathes

Subject Code: 176005

All Year

This course directs the student in the safe use of different types of manual industrial lathes. Students will use these machine tools to shape, pattern, bore, thread and polish metal and other materials. Students will apply their knowledge of product characteristics, perform necessary calculations, use precision measuring instruments and make all adjustments needed to fabricate products to print dimensions. Students will be able to identify operational problems and provide routine care and maintenance to the lathe.

Machine Tools

Subject Code: 176004

All Year

This course introduces students to all aspects of machining applications in manufacturing. They will be able to perform routine calculations, interpret basic drawings, begin the process of performing accurate measurements and plan simple machining processes. Students will learn the fundamental principles and practices of cutting, drilling and grinding using modern machine tools, hand tools and precision measuring instruments.

Machining with Industrial Milling Machines

Subject Code: 176006

All Year

In this course, students are directed in the safe use of manual milling machines. Students apply their knowledge of product characteristics, perform necessary calculations, and use precision measuring instruments and layout equipment to mill products to print dimensions. Students will use these machine tools to shape, cut, drill and bore metal and other materials. Students will be able to identify operational problems and provide routine care and maintenance to the manual mill.

Level II:**Credit Recommendation: 3.0****Computer Numerical Control Technology w/ Industrial Mills & Lathes (CTAG)****Subject Code: 176007****Semester 1**

In this course, students will use computer numerical control (CNC) programming to mill products comprised of various materials. Students will prepare numerical control programs in positioning systems using standard industrial G and M codes. They will program computerized numerical control mills and lathes.

Manufacturing Capstone**Subject Code: 176008****Semester 2**

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in a Manufacturing program in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Commercial & Residential Electricity (Diamond)**Level I:****Credit Recommendation: 3.0****Core & Sustainable Construction****Subject Code: 178000****Semester 1**

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Residential Electrical Systems**Subject Code: 178008****Semester 2**

This course will emphasize electrical theory, materials, equipment and general methods used in residential construction. Students will navigate the National Electrical Code, learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate loads and service requirements. Students will install, test and repair receptacle outlets, lighting and small appliance circuits. They will understand circuit protection concepts and install a subpanel. Specialty circuit installation will be addressed.

Level II:**Credit Recommendation: 3.0****Construction Electrical Systems****Subject Code: 178007****Semester 1**

This introductory electrical course will emphasize electrical theory, materials, and equipment. Students will explore the National Electrical Code and learn worksite safety. They will interpret schematics, construct basic circuits, and use test equipment and electrical hand and power tools.

Commercial and Industrial Construction Electrical Systems**Subject Code: 178009****Semester 2**

Students will plan and install electrical systems in commercial settings. Students learn worksite safety and understand permitting requirements. Students will interpret plans and job specifications and calculate loads and service requirements. Students will install, test and repair receptacle outlet, lighting and equipment circuits. They will understand circuit protection concepts and be able to install an entrance panel. Specialty commercial circuit installation will be addressed. Students will apply operating principles to the installation and troubleshooting of motors and controls.

Construction Framing & Finishing Technologies (Diamond & Scarlet)

Level I:

Credit Recommendation: 3.0

Core & Sustainable Construction

Subject Code: 178000

Semester 1

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Principals of Wood Construction

Subject Code: 178030

Semester 2

Students will engage in the introductory skills utilized in working with various wood construction materials. They will learn to use basic measuring tools, hand tools and machines, common to the wood industry, to construct basic projects. Additionally, students will examine various wood construction materials and their properties. Throughout the course, students will learn components of site and personal safety.

Structural Systems

Subject Code: 178003

All Year

Students will learn procedures and techniques required for layout and framing of walls and ceilings including roughing-in door and window openings, constructing corners and partitions, bracing walls and ceilings, and applying sheathing. Students will learn methods of roofing, cold formed steel, and wood stair framing. Students will learn site and personal safety, material properties, design procedures, and code requirements for structural systems.

Level II:

Credit Recommendation: 3.0

Remodeling/Renovation

Subject Code: 178023

Semester 1

Students will apply structural and mechanical skills to remodeling and renovations. In addition, students will learn the process of securing the required building permits, the management of subcontractors, and the coordination of formal building inspections. Students will troubleshoot design or logistics issues and provide possible solutions. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Construction Pre-Apprenticeship/Capstone

Subject Code: 178029

Semester 2

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in construction programs in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course is delivered through a variety of delivery methods including cooperative education or apprenticeship.

Construction Technologies (Laurel)

Level I:

Credit Recommendation: 3.0

Core & Sustainable Construction

Subject Code: 178000

Semester 1

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Principals of Wood Construction**Subject Code: 178030****Semester 2**

Students will engage in the introductory skills utilized in working with various wood construction materials. They will learn to use basic measuring tools, hand tools and machines, common to the wood industry, to construct basic projects. Additionally, students will examine various wood construction materials and their properties. Throughout the course, students will learn components of site and personal safety.

Structural Systems**Subject Code: 178003****All Year**

Students will learn procedures and techniques required for layout and framing of walls and ceilings including roughing-in door and window openings, constructing corners and partitions, bracing walls and ceilings, and applying sheathing. Students will learn methods of roofing, cold formed steel, and wood stair framing. Students will learn site and personal safety, material properties, design procedures, and code requirements for structural systems.

Level II:**Credit Recommendation: 3.0****Remodeling/Renovation****Subject Code: 178023****Semester 1**

Students will apply structural and mechanical skills to remodeling and renovations. In addition, students will learn the process of securing the required building permits, the management of subcontractors, and the coordination of formal building inspections. Students will troubleshoot design or logistics issues and provide possible solutions. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Construction Pre-Apprenticeship/Capstone**Subject Code: 178029****Semester 2**

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in construction programs in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course is delivered through a variety of delivery methods including cooperative education or apprenticeship.

Cosmetology (Diamond, Laurel, Live, Scarlet)**Level I:****Credit Recommendation: 3.0****Microbiology and Infection Control****Subject Code: 174115****Semester 1**

Students will learn basic bacteriology, infection control, and salon safety practices. Students will be able to recognize infectious disorders and contagious diseases and learn the dispensary requirements, product storage, and requirements of the laws and rules which regulate the cosmetology industry in Ohio.

Hand & Foot Treatment Fundamentals and Enhancements**Subject Code: 174145****Semester 2**

Students will learn the knowledge and skills to perform both manicures and pedicures. They will learn how to maintain personal hygiene and infection control. Students will give plain/oil manicures, pedicures, and hand/arm and foot/leg massages. Enhanced hand and foot treatments using specialized products and techniques will be performed.

Level II:**Credit Recommendation: 3.0****Fundamentals of Hair Cutting and Styling****Subject Code: 174125****Semester 1**

Students will learn basic shampooing, conditioning and haircutting including trimming, wet styling and thermal styling techniques when working with natural and synthetic hair. Students will also learn infection control and safety along with the science of ergonomics.

Skin Care Fundamentals and Enhancements**Subject Code: 174150****Semester 2**

Students will apply the principles of anatomy, skin analysis, infection control and safety to safe hair removal, skincare treatments, and facial massage. Students will use electrical and manipulative facial treatments including masks, packs, make-up techniques. Students will also learn advanced skin care treatments, targeted massage, and enhancement applications using specialized products and techniques.

Culinary Arts & Hospitality Services (Diamond, Live, Scarlet)**Level I:****Credit Recommendation: 3.0****Hospitality Fundamentals (CTAG)****Subject Code: 330000****Semester 1**

This first course in the career field will introduce students to culinary arts, foodservice operations, lodging, travel and tourism. Students will obtain knowledge of customer service principles and examine the impact of cultural, historical, social and technological developments on key segments of the industry. They will also apply safety and sanitation techniques to prevent and control injuries, illnesses and diseases in the workplace. Business law, employability skills, leadership and communications will be addressed.

Fundamentals of Food Production (CTAG)**Subject Code: 330100****Semester 2**

Students will prepare food products and beverages according to standardized recipes. They will apply plating and presentation principles to deliver attractive menu items, establish food specifications and prep lists, and develop ingredient and portion control guides. Safety and sanitation, standard knife skills, and culinary math will be emphasized. Employability skills, leadership and communications will also be incorporated.

Level II:**Credit Recommendation: 3.0****Restaurant Management (CTAG)****Subject Code: 330120****Semester 1**

Students will apply management principles to plan, organize and direct restaurant staff toward goal achievement. They will hire, train, and supervise employees; establish processes to facilitate restaurant operations; and plan and design menus. Students will also forecast and schedule food production, establish food specifications, select vendors, calculate costs, and purchase food and nonfood products. Other topics include food science, nutritional analysis, business law and ethics, economics and marketing.

Baking and Pastry Arts (CTAG)**Subject Code: 330125****Semester 2**

Students will apply food science principles to prepare and bake breads, desserts and pastries. They will also use specialized decorating and presentation techniques to decorate cakes, cookies, pastries, and other baked goods. Students will select quality ingredients, determine food costs, and research and

develop marketable new recipes and food concepts. Personal safety, food safety, and equipment safety will be emphasized.

Dental Assisting (Laurel & Scarlet)

Level I:

Credit Recommendation: 3.0

Oral Diagnosis and Treatment Planning

Subject Code: 072080

Semester 1

Students gain knowledge of head and neck anatomy with a focus on the oral cavity and teeth. They will study bone structure, cosmetic dentistry, and tooth identification and numbering systems. Students gain knowledge of chemical and physical properties of dental materials, their indications for use, and proper manipulation of the materials. Students perform radiographs, impressions, pouring, trimming, and wax bites methods and techniques. Additionally, students educate the patient on dental procedures and comprehensive dental care.

Dental Technology (CTAG)

Subject Code: 072075

Semester 2

Students will demonstrate knowledge and skills associated with the practice of dentistry. Topics include principles of dental procedures and comprehensive dental care, infection control in dentistry, and dental specialties including radiology and laboratory procedures. Students will perform chairside assisting techniques including instrument sterilization, fluoride applications, dietary analysis, and assisting physician. Emphasis is given to terminology, instruments and equipment, and patient communication. Additionally, students maintain accounts and inventory, records and appointments.

Level II:

Credit Recommendation: 3.0

Dental Radiography (CTAG)

Subject Code: 072076

Semester 1

Students will perform procedures to expose, process, and interpret dental radiographs. Students will apply knowledge of radiation physics, infection prevention and quality control standards that are appropriate to the clinical setting. Students will apply effective communication skills for interacting with diverse patient populations and proper procedure documentation according to business and industry standards.

Medical & Dental Office Technology

Subject Code: 072115

Semester 2

The Medical and Dental Office Technology course is designed for students that are interested in a business-related career within the medical and dental career path. Students will use communication, leadership, technology, and management principles and apply them to the medical and dental office setting. Students will demonstrate key functions within the medical and dental office such as record-keeping procedures set forth by national accrediting organizations. In addition, students will use their knowledge of medical terminology and anatomy when working with health records, insurance, and other aspects of the medical and dental office.

Digital Arts & Design (Diamond, Laurel, Live, Scarlet)

Level I:

Credit Recommendation: 3.0

Digital Image Editing (CTAG Choice)

Subject Code: 340120

All Year

This course focuses on manipulating images for final output through print and web-based production. Students obtain a brief perspective on analog image editing and delve into the world of editing digital photos, illustrations and other artwork. They learn to adjust resolution and exposure, modify color,

compress data and format and manage files. Students will use problem-solving strategies and work collaboratively to complete the creative process with artists, printers and web developers.

Visual Creation (CTAG Choice)

Subject Code: 340315

All Year

A keen eye for detail, art elements, design principles and styles of art are essential to the world of visual communications. Students learn proper composition with such principles as color theory, typography and drawing. They create designs targeted for the Internet and for two- or three-dimensional products while adhering to copyright laws and deadlines.

Level II:

Credit Recommendation: 3.0

Digital Print Design (CTAG)

Subject Code: 340320

All Year

Starting with understanding target audiences, demographics, product shelf life and sustainability students create designs for two- or three-dimensional products. Using workflow processes, they lay out newsletters, posters, business cards and other products. They create logo and package designs for corporate branding, marketing and advertising. Critical thinking is engaged in multiple-level critiques.

Video Production (CTAG)

Subject Code: 340145

All Year

This course focuses on video production for commercial use. Students plan and coordinate work with clients to produce projects on a tight timeline. They learn how to read and interpret a script, select and maintain equipment and combine graphics, text and special effects. Skills attained include pre-production documentation and planning; in-production audio and video recording; and post-production editing and distribution.

Arts and Communication Capstone

Subject Code: 340009

All Year

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in the Information Technology program in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Early Childhood Education (Laurel, Live, Scarlet)

Level I:

Credit Recommendation: 3.0

Health, Safety and Nutrition (CTAG)

Subject Code: 350230

Semester 1

Students will establish and maintain a physically and emotionally safe and healthful environment for young children. They will learn skills in first aid and CPR, identify signs and symptoms of common health issues and diseases, and develop meal and snack menus appropriate for young children of different ages and stages of development. The effects of nutrients on children's growth and development will also be emphasized.

Curriculum and Instruction for Early Childhood Education

Subject Code: 350235

Semester 2

Students will develop age-appropriate learning experiences and curriculum to engage young children. They will determine curricular goals, create lesson plans, and employ observation and assessment

strategies to evaluate children’s growth and development. Application of foundational principles of reading, writing, speaking, and listening skills to enhance the learner’s application of literacy will be emphasized.

Level II:

Credit Recommendation: 3.0

Early Childhood Education Observation & Assessment

Subject Code: 350220

Semester 1

Students will formally and informally observe young children to determine learners’ growth, personalities and required interventions. They will analyze children’s behavior, record and categorize learner progress, and use observation to diagnose problems. The role of assessment data in developing suitable teaching responses and strategies will be examined.

Early Childhood Education Principles (CTAG)

Subject Code: 350205

Semester 2

Students will examine the history and philosophy of early childhood education, types of early childhood programs, and the roles, rights and responsibilities of learners and stakeholders in early childhood education. Students will assess developmentally appropriate practices; legal, ethical and organizational issues; and the challenge of teaching and caring for young children with diverse needs. Career planning and professionalism will also be emphasized throughout the course.

Engineering Technologies & Robotics (Scarlet)

Level I:

Credit Recommendation: 3.0

Engineering Design (CTAG)

Subject Code: 175001

Semester 1

The focus of Engineering Design is the application of the engineering design process. Topics include work-processes, optimization methods, design optimization, and risk management tools. Students will use 2D and 3D modeling software to help them design solutions to solve proposed problems, document their work, and communicate solutions. Additionally, students will interpret industry prints, and create working drawings from functional models. Emphasis is given to experimental problem solving in real systems.

DC Electronic Circuits (CTAG Option)

Subject Code: 175105

Semester 2

Students will learn the fundamental principles of electricity with emphasis on DC (direct current) circuits. They will use concepts of Ohm’s Law, the Power Formula and Kirchhoff’s Law with series, parallel and series-parallel circuit applications. The relationship between electricity and magnetism and motor theory will also be introduced. The student will use and maintain digital multimeters and oscilloscopes.

Level II:

Credit Recommendation: 3.0

Mechanisms and Drives

Subject Code: 175008

Semester 1

Students will learn the principles and practices of machine operation and machine applications. They will learn how machine components such as gears, belts, sprockets, bearings, clutches, couplings, springs, etc. contribute to the application for which the machine is designed. They will also examine the basic drives of such mechanisms as electric motors and hydraulic & pneumatic actuators.

Industrial Robotics (CTAG)**Subject Code: 176025****Semester 2**

Students will apply the knowledge and skills to program, safely operate, and troubleshoot industrial Robots. The students will learn industrial robotic operations and system configurations. Throughout the course, students will code, compile, and debug programs using industrial robotic programming language.

Equine Science & Management (Diamond & Laurel)**Level I:****Credit Recommendation: 3.0****Animal Health****Subject Code: 010915****Semester 1**

Students will examine causes, symptoms, and treatment of common diseases with emphasis on developing preventative health management plans. Topics will include the study of pathogens and classifying types of diseases and disorders. Students will perform animal health assessments and compare to standard characteristics. Throughout the course, students will utilize principles of technology to manage information systems and research issues affecting the industry.

Business Mgt. for Agricultural & Environmental Systems (CTAG)**Subject Code: 010115****Semester 2**

Students will examine elements of business, identify organizational structures and apply management skills while developing business plans, financial reports and strategic goals for new ventures or existing businesses. Learners will use marketing concepts to evaluate the marketing environment and develop a marketing plan with marketing channels, product approaches, promotion and pricing strategies. Throughout the course, students will apply concepts of ethics and professionalism while implications of business regulations will be identified.

Level II:**Credit Recommendation: 3.0****Equine Selection, Nutrition and Management****Subject Code: 010935****Semester 1**

Students will identify and apply responsible animal science principles and management practices to equine populations. Topics will include equine nutrition, selection, reproduction and facility design and management. They will apply knowledge of equine science to enhance animal growth, enrichment and training, along with providing educational and visitor engagement programs. Throughout the course, students will develop management plans that reflect the classification of animals and follow best practices for care and legal compliance.

Animal Science and Technology (CTAG)**Subject Code: 010910****Semester 2**

Students will learn and apply responsible animal management principles and routine husbandry practices. Topics will include nutrition, feeding, and caring for animals, body/carcass composition evaluation, and applying marketing principles to the sale and distribution of animal products. Learners will investigate animal genetics and how it impacts principles of animal improvement, selection and marketing. Throughout the course, learners will develop business leadership, problem-solving and communication skills in relation to the science of animals.

Exercise Science & Sports Medicine (Diamond, Laurel, Live, Scarlet)

Level I:

Credit Recommendation: 3.0

Medical Terminology (CTAG)

Subject Code: 072150

All Year

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Exercise and Athletic Training (CTAG)

Subject Code: 072000

All Year

In this course, students will apply procedures and techniques used in athletic training and in the care and rehabilitation of athletic injuries and therapeutic exercise. Topics include injury prevention, conditioning, and wound care techniques of the musculoskeletal system. Students will learn techniques in the analysis of mechanical factors related to human movement. In addition, current trends, technology, legal considerations, and the role of exercise science in relation to other health fields will be emphasized.

Level II:

Credit Recommendation: 3.0

Nutrition and Wellness

Subject Code: 072155

All Year

Students will increase their knowledge of comprehensive health and wellness. Students will be able to identify the components of fitness and communicate the relationship between physical fitness, physical performance, injury prevention, and nutritional intake. Students will evaluate an individual's state of nutrition based upon the impact of personal choices and social, scientific, psychological and environmental influences. Further, students will calculate an individual's kilocalorie burn rate and recommend an ideal diet and physical fitness plan.

Fitness Evaluation and Assessment (CTAG)

Subject Code: 072020

All Year

Students will complete comprehensive fitness evaluations and develop individualized training programs. Students will administer lab and field tests of cardiovascular endurance, body composition, joint flexibility and muscular strength, power, and endurance. Emphasis is placed on assessing body composition, neuromuscular flexibility, agility, balance, coordination, and proprioception. Additionally, students will identify components of physical fitness and communicate how physical activity impact health and wellness.

Firefighting/Emergency Medical Service (Scarlet)

Level I:

Credit Recommendation: 3.0

Foundations of Firefighting and Emergency Medical Services

Subject Code: 170342

Semester 1

This course introduces students to the foundational concepts of firefighting safety and emergency medical services. Students will analyze and practice skills outlined in the Ohio Department of Public Safety Fire Protection and Ohio Emergency Medical Services rules and regulations in preparation for Firefighter I&II curriculum and EMT licensure.

Homeland Security Protecting America's Critical Infrastructure**Subject Code: 170916****Semester 2**

In this course, students will learn techniques to secure and protect America's people and infrastructure from natural and manmade disaster. Students will look at a range of issues including cyber security, intelligence gathering, and local emergency planning that can be applied in their own community. Students will also learn to manage critical incidents through training in National Incident Management and the Incident Command System. Student will complete multiple FEMA certifications in this course.

Firefighter I (CTAG)**Subject Code: 170343****All Year**

This course prepares students for a career in the fire service. Students learn the history of firefighting, ground operations, fire science, fire suppression, and use of protective equipment, rescue equipment, tools and appliances. Students will apply knowledge by training with fire equipment and live fire exercises, and practicing a variety of rescue situations. Students who successfully complete this course at a chartered institution (Great Oaks) will be eligible to take the Ohio Firefighter I certification test.

Level II:**Credit Recommendation: 3.0****Firefighter II (CTAG Option)****Subject Code: 170344****Semester 1**

This course builds on the knowledge and skills learned in Firefighter I. Students will apply knowledge and skills to advanced training in fire suppression, fire science, rescue, equipment, tools, appliances, and hazardous materials operations. Students who have completed Firefighter I and successfully complete this course will be eligible to take the Ohio Firefighter II certification test.

Emergency Medical Technician (CTAG Option)**Subject Code: 170345****Semester 2**

Emergency Medical Technicians are first responders who provide basic medical care to sick and injured people. In this course, students will learn the knowledge and skills necessary to provide lifesaving first aid. Students will assess, diagnose, and treat a variety of illnesses and injuries in the process of providing pre-hospital care. Students who successfully complete this course at a chartered institution (Great Oaks) will be eligible to take the National Registry Exam for Ohio EMT certification.

Health Academy – (Scarlet*)**Level I:****Credit Recommendation: 3.0****Medical Terminology (CTAG)****Subject Code: 072150****All Year**

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Health Science and Technology**Subject Code: 072001****Semester 1**

This first course in the career field provides students an overview of the opportunities available in the healthcare industry. Students will learn fundamental skills in effective and safe patient care that can be applied across a person's lifespan. They will also be introduced to exercise science and sports medicine, the field of biomedical research and the importance of managing health information.

*Students will move to the Health Technology Program or the Secondary Practical Nursing Program based on set criteria and student choice.

Health Technology – (Diamond, Laurel, Live, Scarlet*)

Level I:

Credit Recommendation: 3.0

Medical Terminology (CTAG)

Subject Code: 072150

All Year

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Health Science and Technology

Subject Code: 072001

Semester 1

This first course in the career field provides students an overview of the opportunities available in the healthcare industry. Students will learn fundamental skills in effective and safe patient care that can be applied across a person's lifespan. They will also be introduced to exercise science and sports medicine, the field of biomedical research and the importance of managing health information.

Patient Centered Care

Subject Code: 072050

Semester 2

Students will apply psychomotor nursing skills needed to assist individuals in meeting basic human needs. Students will implement interventions following a nursing assistant plan of care. Students will collect patient's vital signs including temperature, pulse rate, respiration rate, and blood pressure. Students will perform phlebotomy procedures with emphasis on infection prevention, universal precautions, proper patient identification, specimen acquisition, handling, and processing. Additionally, students will observe patients' physical, mental, and emotional conditions and document any change.

Level II:

Credit Recommendation: 3.0

Patient Centered Care and Diagnostics

Subject Code: 072055

Semester 1

In this course, students establish and implement treatment plans while providing primary nursing care. Topics include pharmacology, phlebotomy, mental health nursing and acute care nursing. Students use diagnostic techniques to develop patient health assessments. Emphasis is placed on the synthesis of information gathered through health history, observation, and the detection of deviations and variations from normal physical characteristics. In addition, students learn the legal and ethical principles needed to function within the scope of practice.

Health Science Capstone

Subject Code: 072105

Semester 2

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Health Sciences courses in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Heating, Ventilating & Air Conditioning (Diamond, Laurel, Live, Scarlet)

Level I:

Credit Recommendation: 3.0

Core & Sustainable Construction

Subject Code: 178000

Semester 1

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Mechanical, Electrical and Plumbing Systems

Subject Code: 178002

Semester 2

Students learn physical principles and fundamental skills across mechanical systems in construction. Students will select materials and assemble and test basic electrical circuits. Students will select materials and assemble simple copper and plastic plumbing applications for both supply and drains. They will perform simple maintenance of electric motors, electric fixtures and plumbing fixtures. Students will be able to select and install basic ductwork components and learn the operation and maintenance of heating and cooling equipment.

Level II:

Credit Recommendation: 3.0

HVAC Refrigeration

Subject Code: 178013

Semester 1

Students will install, troubleshoot and service residential and commercial refrigeration systems. Students will learn laws of thermodynamics, pressure and temperature relationships, the refrigeration cycle, and refrigerant management. Students will address hydronic systems, chilled water systems, package units, and cooling towers.

Heating and Cooling Systems

Subject Code: 178012

Semester 2

Students will apply principles of heating and cooling to the installation, troubleshooting and maintenance of residential and commercial heating, ventilation, and air conditioning/refrigeration (HVAC/R) systems.

Heavy Equipment Operations & Engineering (Laurel & Live)

Level I:

Credit Recommendation: 3.0

Core & Sustainable Construction

Subject Code: 178000

Semester 1

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Heavy Equipment Operations

Subject Code: 178026

Semester 2

Students will perform heavy equipment operating techniques and perform operator level maintenance. Students will learn to survey using lasers, transits and machine control systems. Additionally, students will learn the techniques and processes for clearing, grubbing, stripping, excavating, backfilling, stockpiling, and cutting and spreading of fill material. Throughout the course, safety is emphasized.

Level II:**Credit Recommendation: 3.0****Construction Surveying and Site Logistics****Subject Code: 178027****Semester 1**

Students will use surveying, topographic, satellite positioning, and geomatics instruments to locate and prepare a site for construction. Students will establish lot and building lines as well as grade levels and use site plans and elevation drawings to determine excavation needs. Students will locate and mark underground and overhead services, identify soil conditions that may require shoring and position batter boards. Additionally, students will identify the parameters for site selection and zoning regulations and the process for filing building permits.

Plan Reading (CTAG)**Subject Code: 178019****Semester 2**

Students will learn blueprint reading as it relates to architecture and construction. Students will use scaling, orthographic projections, dimensioning practices, symbols, notations, and abbreviations to perform area calculations and to interpret floor plan, section, and elevations. Using construction plans, students will identify problems or shortcomings related to the layout and installation of materials for the project.

Industrial Diesel Mechanics (Laurel & Scarlet)**Level I:****Credit Recommendation: 3.0****Truck Diesel Engines****Subject Code: 177007****Semester 1**

Students will inspect, diagnose, and repair diesel truck engines. Students will learn the principles of valve train assemblies, lubrication, intake, exhaust and fuel systems. Additionally, skill development in engine testing, inspection and repair of electronic fuel management systems are emphasized. Students will break down and assemble heavy truck engines and supporting systems.

Truck Braking Systems**Subject Code: 177032****Semester 2**

Students will perform inspections, troubleshoot malfunctions, and service truck undercarriage systems. Students will identify poor-performing air brake systems and replace malfunctioning components. Additionally, students will perform wheel alignment and tire inspections, diagnostics, and repair. Identifying workplace risk factors associated with repetitive motion and lifting, operating, and moving of a heavy object is emphasized.

Level II:**Credit Recommendation: 3.0****Ground Transportation Electrical/Electronic****Subject Code: 177002****Semester 1**

Student will diagnose and repair vehicle electrical systems including chassis electrical, charging, starting and lighting systems. Students will learn the fundamentals of direct current (DC) electronics including series, parallel, and series parallel circuits. Students will use electronic diagnostic tools, read schematics, and utilize printed and electronic repair manuals to troubleshoot electrical circuits, test components and replace defective modules.

Ground Transportation Maintenance (CTAG)**Subject Code: 177000****Semester 2**

In this course, students will apply skills needed to inspect and perform general service on vehicles. Students will research applicable service information and technical service bulletins, and perform maintenance on vehicles. Students will inspect and service engine, drive train, suspension, steering,

electrical and braking systems. Students will perform ignition maintenance including spark plug/glow plug and ignition wire and coil pack replacement. Additionally, students change fluids and filters and inspect vehicles for leaks and fluid condition.

IT Academy (Live)

Level I:

Credit Recommendation: 3.0

Information Technology

Subject Code: 145005

Semester 1

This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society. Students will learn safety, security, and ethical issues in computing and social networking. Students will also learn about input/output systems, computer hardware and operating systems, and office applications.

Web Design (CTAG)

Subject Code: 145010

Semester 1

Students will learn the dynamics of the Web environment while pursuing an in-depth study of both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Web based protocols such as FTP, TCP/IP, and HTTP will be addressed. Students will create a website with tag text elements, special characters, lines, graphics, hypertext links, and graphical tables.

Network Operating Systems (CTAG)

Subject Code: 145040

Semester 2

Students will perform desktop client administrator duties by providing support for users in various work environments including professional offices, small businesses, work groups, departments, and/or corporate information services (IS). Students will learn to install, configure, and update commercial and open source network operating systems.

Database Administration

Subject Code: 145080

Semester 2

Students will learn about user rights and responsibilities, concurrency security, reliability, backup and recovery to perform tasks involved in the administration and management of a database system. Students will design, extract and transform data ensuring data quality. Knowledge and skills relating to reporting systems, data warehouses, and data mining will be developed.

Level II:

Credit Recommendation: 3.0

Networking

Subject Code: 145035

All Year

Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, and cabling. Students will design simple networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the operation and usage of network protocols will be developed.

Object Oriented Programming (CTAG)

Subject Code: 145065

All Year

Students will learn to represent programming concepts as "objects" that have data fields and associated procedures known as methods. Students will implement classes such as support static, instance method, inheritance, polymorphism, exception handling, and object serialization. A variety of commercial and

open source programs and applications will be used.

IT (Laurel)

Level I:

Credit Recommendation: 3.0

Computer Hardware (CTAG Option)

Subject Code: 145025

Semester 1

Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized.

Computer Software (CTAG)

Subject Code: 145030

Semester 2

Students will apply knowledge and skills of commercial and open source operating systems in portable, stand alone, and networked devices. Students will install a variety of operating systems manually and using remote assistance. They will learn to configure, modify, and troubleshoot operating systems. Desktop virtualization, system security, and operating system history will be addressed.

Networking (CTAG)

Subject Code: 145035

Semester 1

Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, and cabling. Students will design simple networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the operation and usage of network protocols will be developed.

Network Security (CTAG)

Subject Code: 145050

Semester 2

Students in this course learn about network security and operating systems. Other topics include secure network communications, computer hardware, and network software. Students also learn about network security theory, cryptography, security architecture, firewalls, VPNs, IP Security, and methods of protection.

Law Enforcement (Scarlet)

Level I:

Credit Recommendation: 3.0

The American Criminal Justice System (CTAG)

Subject Code: 170911

All Year

This first course in the Criminal Justice pathway traces the history, organization, and functions of local, state, and federal law enforcement. Students will study criminal behavior and apply constitutional and criminal law to crime and punishment. Students will learn law enforcement terminology, classifications and elements of crime, and how various court systems are used to judge and punish offenders.

Investigations and Forensics in Criminal Investigations

Subject Code: 170914

All Year

Forensic science uses a structured and scientific approach to the investigation of crimes including assault, abuse and neglect, domestic violence, accidental death and homicide. Students will learn the psychology of criminal behavior and apply it to investigative procedures. Students will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, and blood spatter analysis.

Police Work and Practice in Public Safety (CTAG)**Subject Code: 170913****All Year**

In this course, students will learn the skills necessary to prevent, detect and react to crime. Students will learn self-defense and subject control techniques, methods to conduct patrols, surveillance, and traffic procedures. Students will understand the ethical and legal responsibilities of police officers on patrol. Additionally, students will learn the operations of police and emergency telecommunication systems.

Level II:**Credit Recommendation: 3.0****Security and Protective Services****Subject Code: 170912****All Year**

Private security is an ever-expanding industry that requires trained professionals that can detect, deter, and investigate crime. The course focuses on private security measures used to protect lives, property, and proprietary information. Students completing the Ohio Peace Officer Training Academy Private Security curriculum provided by an approved instructor will be eligible to sit for the OPOTA certification exam as a private security guard.

The Correctional System and Services (CTAG)**Subject Code: 170915****All Year**

The correctional officer plays a critical role in the criminal justice system. In this course students will learn institutional rehabilitation and community corrections strategies that prepare them for work in a correctional setting. The student will learn the role and responsibilities of a correctional officer including processing inmates, maintaining security in a correctional setting, and understanding inmate mental health needs.

Secondary Practical Nursing (Scarlet*)**Level I:****Credit Recommendation: 3.0****Medical Terminology (CTAG)****Subject Code: 072150****All Year**

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents

Patient Centered Care**Subject Code: 072050****Semester 2**

Students will apply psychomotor nursing skills needed to assist individuals in meeting basic human needs. Students will implement interventions following a nursing assistant plan of care. Students will collect patient's vital signs including temperature, pulse rate, respiration rate, and blood pressure. Students will perform phlebotomy procedures with emphasis on infection prevention, universal precautions, proper patient identification, specimen acquisition, handling, and processing. Additionally, students will observe patients' physical, mental, and emotional conditions and document any change.

Level II:**Credit Recommendation: 3.0****Patient Centered Care and Diagnostics****Subject Code: 072055****Semester 1**

In this course, students will establish and implement treatment plans while providing primary nursing care. Topics include pharmacology, phlebotomy, mental health nursing and acute care nursing. Students

will use diagnostic techniques to develop patient health assessments. Emphasis is placed on the synthesis of information gathered through health history, observation, and the detection of deviations and variations from normal physical characteristics. In addition, students will learn the legal and ethical principles needed to function within the scope of practice.

Lifespan Development and Medical Intervention

Subject Code: 072060

Semester 2

Students will gain necessary skills and knowledge to meet the needs of individuals from infancy through the human life cycle in a safe, legal, and ethical manner using the nursing process. Topics include physical, psychological, and cultural variations associated with maturing and aging. Emphasis will be placed on regulatory compliance, patient assessment, patient safety, and medical interventions. Additionally, students will use psychomotor nursing skills to assist in day-to-day patient care activities.

Health Science Capstone

Subject Code: 072105

All Year

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Health Sciences courses in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Surgical Technology (Diamond & Scarlet)

Level I:

Credit Recommendation: 3.0

Medical Terminology (CTAG)

Subject Code: 072150

All Year

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Health Science and Technology

Subject Code: 072001

Semester 1

This first course in the career field provides students an overview of the opportunities available in the healthcare industry. Students will learn fundamental skills in effective and safe patient care that can be applied across a person's lifespan. They will also be introduced to exercise science and sports medicine, the field of biomedical research and the importance of managing health information.

Principals of Allied Health Medicine

Subject Code: 072035

Semester 2

Students will apply knowledge and clinical skills necessary to assess, plan, provide, and evaluate care to patients in varied healthcare settings. Students will apply first aid principles and techniques needed for response to choking, cardiopulmonary resuscitation, and other life-threatening emergencies. Emphasis will be placed on regulatory compliance, patient safety, pathophysiology, and medical interventions. Additionally, this course introduces psychomotor skills needed to assist individuals in meeting basic human needs.

Level II:**Credit Recommendation: 3.0****Surgical Support****Subject Code: 072070****Semester 1**

Students will demonstrate knowledge and skill necessary to carry out delegated tasks associated with the safe and efficient operating room support functions and related procedures. Topics include surgical technology theory, patient care concepts, and sterilization techniques. Student will assist with the passing of instruments and the positioning of patients. Additionally, students will prepare patients for transport to and from surgery, maintain equipment and supplies, and prepare the operating room for surgery.

Health Science Capstone**Subject Code: 072105****Semester 2**

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Health Sciences courses in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Veterinary Assisting (Diamond, Live, Scarlet)**Level I:****Credit Recommendation: 3.0****Animal Health****Subject Code: 010915****Semester 1**

Students will examine causes, symptoms, and treatment of common diseases with emphasis on developing preventative health management plans. Topics will include the study of pathogens and classifying types of diseases and disorders. Students will perform animal health assessments and compare to standard characteristics. Throughout the course, students will utilize principles of technology to manage information systems and research issues affecting the industry.

Animal Anatomy and Physiology**Subject Code: 010945****Semester 2**

Students will examine the structure and function of the major organ systems as well as the function and principle of blood flow in animals. Students will study internal and external anatomical parts and their functions and investigate the relationship among these parts and systems within the body of the animal. Throughout the course, students will apply the internal functions of anatomical structures to the business and industry principles of the animal industry.

Level II:**Credit Recommendation: 3.0****Veterinary Science****Subject Code: 010930****Semester 1**

Students will learn causes, symptoms, and treatment of common diseases with special emphasis on developing preventative health management plans and breeding programs. Topics include veterinary pharmacology, radiology and imaging techniques, principles of surgery, safe laboratory skills, and the concepts of ethics and professionalism in the work place. Students will develop skills in inquiry and statistical methods. Throughout the course, learners will utilize principles of technology to manage information systems and research issues affecting the industry.

Business Mgmt. for Agricultural & Environmental Systems (CTAG)**Subject Code: 010115****Semester 2**

Students will examine elements of business, identify organizational structures and apply management skills while developing business plans, financial reports and strategic goals for new ventures or existing businesses. Learners will use marketing concepts to evaluate the marketing environment and develop a marketing plan with marketing channels, product approaches, promotion and pricing strategies. Throughout the course, students will apply concepts of ethics and professionalism while implications of business regulations will be identified.

Web Applications & Game Development (Diamond, Scarlet)**Level I:****Credit Recommendation: 3.0****Information Technology****Subject Code: 145005****Semester 1**

This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society. Students will learn safety, security, and ethical issues in computing and social networking. Students will also learn about input/output systems, computer hardware and operating systems, and office applications.

Web Design (CTAG)**Subject Code: 145010****Semester 2**

Students will learn the dynamics of the web environment while pursuing an in-depth study of both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Web based protocols such as FTP, TCP/IP, and HTTP will be addressed. Students will create a website with tag text elements, special characters, lines, graphics, hypertext links, and graphical tables.

Level II:**Credit Recommendation: 3.0****Computer and Mobile Applications****Subject Code: 145020****Semester 1**

Students will learn to create applications for mobile devices using a variety of commercial and open source software. They will install these applications, modify them, and develop customer service skills to handle user issues. Knowledge and skills related to customer service in professional offices, small businesses, departments, work groups, and corporate information services will be addressed.

Object Oriented Programming (CTAG)**Subject Code: 145065****Semester 2**

Students will learn to represent programming concepts as "objects" that have data fields and associated procedures known as methods. Students will implement classes such as support static, instance method, inheritance, polymorphism, exception handling, and object serialization. A variety of commercial and open source programs and applications will be used.

Welding (Diamond, Laurel, Live, Scarlet)**Level I:****Credit Recommendation: 3.0****Welding Technologies****Subject Code: 176009****Semester 1**

Students will use fundamental welding principles involving shielded metal arc, oxyacetylene, gas tungsten and gas metal arc welding in the flat, horizontal and vertical positions. An emphasis is given to electrode selection, equipment setup, operating procedures, welding inspection and testing. Students will learn joint designs and layout and will be introduced to welding codes and standards. Additional

topics include Manufacturing Technologies / 2023 employability skills, and an emphasis will be given to personal safety.

Flux Cored Arc Welding**Subject Code: 176002****Semester 2**

Students will be able to safely use the flux cord arc welding process (FCAW) to join various types of metal. They will perform multiple types of welds in all positions up to overhead. They will select the appropriate type of cored electrode and adjust welding equipment based on the physical characteristics and properties of the metal. Students will apply their understanding of quality control factors to evaluate the quality of welds.

Level II:**Credit Recommendation: 3.0****Welding Fabrication****Subject Code: 176015****Semester 1**

Students will apply the knowledge and skills necessary to safely fabricate parts by cutting, drilling, bending, shaping, forming, edging and assembling stock to drawing dimensions. Students will identify weld types, fasteners and adhesives to join materials.

Gas Tungsten Arc Welding (CTAG)**Subject Code: 176003****Semester 2**

Students will use the gas tungsten arc welding process (GTAW) to join various types of metal. They will perform multiple types of welds and joints in all positions up to and including overhead. They will select the appropriate type of electrode, filler metal and shielding gas and be able to adjust welding equipment based on the physical characteristics and properties of the metal. Students will apply quality control factors to evaluate weld quality.