

# **Miami Valley CTC Course Descriptions**

## **2019 - 2020 School Year**

The courses listed will be offered subject to teacher availability and sufficient course requests from students.

**College Credit Plus courses are highlighted in yellow.**

- Additional information regarding College Credit Plus at MVCTC is located at: <http://www.mvctc.com/future-students/early-college-connections>
- Course descriptions for Clark State Community College courses can be found at: <https://www.clarkstate.edu/academics/academic-catalog/>
- Course descriptions for Sinclair Community College courses can be found at: <https://catalog.sinclair.edu/#courses>

### **Math**

College Credit Plus Pre-Calculus	Clark State MTH 1340 (5 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus Calculus	Clark State MTH 2200 (5 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus Statistics	Clark State STT 2640 (3 semester hours) & STT 2650 (2 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
Advanced Technical Math	For students who opt and qualify for the MVCTC apprenticeship program. The course combines the elements of Algebra I, Algebra II, Geometry, and Trigonometry; emphasis is on applications of concepts to career fields. This course is not currently approved as an NCAA core course. 1 credit
Algebra II	A one year Algebra II course to move students deeper into algebraic concepts. Students should have strong Algebra I skills and have successfully completed Algebra I with a C or higher to take this course. Topics included: linear equations/programming & graphing linear functions; polynomials & factoring; quadratic formula; exponents; radicals; rational, irrational, imaginary & complex numbers; rational equations & graphing, systems of linear equations, inequalities & absolute values, right triangle trigonometry, matrices, logarithms and exponential functions. 1 credit

<p><b>Allied Health Math</b></p> <p>Currently a Tech Prep course. Students completing the course with a C or higher may earn 3 semester hours of proficiency credit for Sinclair Community College MTH 1130.</p>	<p>A senior math course specifically for students in the Pre-Nursing, Sports Medicine, Dental Assistant, and Health Occupations programs. The course will focus on career specific math concepts in addition to essential and advanced algebraic concepts. The course has been designed in conjunction with Sinclair Community College to receive college credit (Math 1130) if students meet Sinclair's proficiency test score requirements. Students must have successfully passed Algebra 2 or be concurrently enrolled in Algebra 2 to enroll in this course. This course is not currently approved as an NCAA core course. 1 credit</p>
<p><b>Calculus</b></p>	<p>This course begins with a review of trigonometry as it relates to the study of calculus. It then introduces topics such as limits, differentiation, derivatives, antiderivatives, integrals and integration of functions. Students will find and evaluate finite and infinite limits graphically, numerically, and analytically. Methods used include The Chain Rule, Implicit Differentiation, and the First and Second Derivative Test. Students will also learn how to solve simple differential equations that can be solved by separation of variables and use them to solve applied problems. Prerequisite/Requirements are a 'C' in Pre-calculus or an 'A or B' in Functions and Trigonometry. <b><u>Note: This is not a course for students with weak algebraic skills.</u></b> 1 credit</p>
<p><b>Functions &amp; Trigonometry</b></p>	<p>In this course, linear and quadratic functions are thoroughly reviewed. Polynomial functions, rational functions, exponential functions, and logarithmic functions are introduced with particular emphasis on graphing, inverse operations, domain, and range. During the second semester, right triangle trigonometry is thoroughly reviewed followed by the introduction of general triangle trigonometry, circular trigonometry, and trigonometric graphs. Students enrolling in this course must have passed Algebra 2 or its equivalent. 1 credit</p>
<p><b>Geometry</b></p>	<p>A math option preparing students in the area of spatial sense. Careers that require abstract thinking or design should consider this option. A natural progression in the math sequence to follow Algebra I or II. Topics included: area &amp; volume, construction &amp; conjectures, similarity &amp; congruence, coordinate geometry/transformations, probability, and linear equations. The course prepares students for success on the Geometry End-of-Course Exam. 1 credit</p>
<p><b>Geometry EOC Prep</b></p>	<p>This course prepares students to retake the Geometry end-of-course exam if they earned a 1 or a 2 on a previous attempt of the exam. Students in this course must have taken a full year of Geometry prior to enrollment. <u>This course may be used to complete a Geometry deficiency at the discretion of the partner school.</u> This course is not NCAA approved. 0.5 credit</p>
<p><b>Pre-Calculus</b></p>	<p>This course is intended to prepare students to take Calculus in their senior year of high school or first year of college. Linear and quadratic functions are briefly reviewed. Polynomial functions, rational</p>

	<p>functions, exponential functions, and logarithmic functions are studied with particular emphasis on graphing, limits, slopes, inverse operations, domain, and range. Right triangle trigonometry is reviewed followed by the study of general triangle trigonometry, circular trigonometry, trigonometric graphs, trigonometric identities, sequences, series, and limits. This course prepares a student to enter college prepared for an introductory calculus course.</p> <p>Prerequisite/Requirements are an 'A' or 'B' in Algebra II or successful completion of Functions &amp; Trigonometry. <b><u>Note: This is not a course for students with weak algebraic skills.</u></b> 1 credit</p>
<p>Precision Machining Math</p> <p>Currently a Tech Prep course. Students completing the course with a C or higher may earn 3 semester hours of proficiency credit for Sinclair Community College MTH 1110.</p>	<p>A math option for seniors in the Precision Machining, Robotics, or other Trade &amp; Industry programs which applies mathematics to solve problems commonly encountered in precision machining and other related fields. Students must have previously passed Algebra 2 or be concurrently enrolled in Algebra 2. This course is not currently approved as an NCAA core course. 1 credit</p>
Problem Solving	<p>A semester or year-long course. The course is designed for students who may not be successful in a traditional Algebra II or Geometry class. There is considerable reading in this course, good written and verbal communication skills are needed, and critical thinking is required. Topics include: systematic lists, matrix logic, mathematical patterns, unit analysis, physical representations, finite differences, forms of spatial organization, Venn diagrams, and algebraic problem solving. 0.5 or 1 credit</p>
Problem Solving: Algebra EOC Prep	<p>This course prepares seniors to retake the Algebra end-of-course exam if they earned a 1 or a 2 on a previous attempt of the exam and have previously completed Algebra 2. This course focuses on Problem Solving and the Mathematical Practices as described in the ODE math standards. Students in this course must have taken a full year of Algebra prior to enrollment. 1 credit</p>
Statistics	<p>This course will provide a solid background in the areas of probability and statistics. The Statistics course is intended to provide an alternative for students who want to continue to take math and would like an option other than Functions &amp; Trigonometry, Pre-Calculus, or Calculus. Topics include: branches of statistics, types of data, measurement levels, sampling techniques, frequency distributions &amp; graphs, observational studies vs. experiments; measures of central tendency, variation &amp; position; data analysis, normal distribution, confidence intervals, hypothesis testing, correlation &amp; regression, probability distributions, and two sample comparisons. 1 credit</p>

Transitional Algebra	A math option preparing students to take Algebra II the following school year. <u>Recommended for students that have completed Algebra I and Geometry but believe they will need additional preparation and support to succeed in Algebra II or that will likely need to retake the Algebra 1 End of Course Exam.</u> Topics included: functions, linear relationships, exponential relationships, quadratic functions, statistics, and probability. <b>This course is not currently approved as an NCAA core course.</b> 1 credit
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## Science

College Credit Plus Anatomy & Physiology	Sinclair BIO 1141 & BIO 1147 (4 semester hours) Students must achieve a qualifying placement test score to be eligible to take the course. Sufficient enrollment and an approved CCP instructor is required.
Anatomy & Physiology	Students will study the physical structure and functions of the various systems of the body. The work consists of classroom discussions supplemented by dissections and work with artificial models. This course is highly recommended for students planning on entering any health-related field. 1 credit (life science)
Applied Physics Principles	This is an applied physics course designed to introduce the student to the scientific principles that exist in our everyday world. The following systems are studied: Mechanical, Thermal, Electrical-Magnetic, Fluid, and Optical Systems. The course involves “hands-on” lab work designed to help the student master the concepts. 1 credit (physical science)
College Credit Plus Chemistry	Sinclair CHM 1111 & CHM 1151 (4 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment and an approved CCP instructor is required.
Chemistry	This course is designed as an introductory course. Topics include: chemical reactions, atomic structure, chemical bonding, energy, periodic law, acids and bases, organic chemistry, and laboratory safety. Prerequisites are a ‘C’ or better in Algebra I and use of a scientific calculator. 1 credit (physical science)
Earth Science	This course is designed to cover elements specific to the Earth Sciences. Students will be exposed to a wide range of topics as they relate to the natural world. Topics will revolve around an in-depth study of the four spheres: Hydrosphere, Lithosphere, Atmosphere, and the Biosphere. Basic astronomical principles will also be covered in this course. 0.5 or 1 credit (physical science)

Environmental Science	A biological science course which includes the study of issues related to ecosystems including cycles & processes, sustainability, endangerment & extinction, energy sources, soil types, pollution, and population growth. 1 credit (life science)
Food Science	A science course specifically for Culinary Arts students. The course focuses on life and physical science topics such as microbiology and nutritional science as well as the chemistry and thermodynamics involved in food preparation. This course is not currently approved as an NCAA core course. 1 credit (life science)
Forensic Science I  Currently a Tech Prep course. Students completing the course may earn 3 semester hours of proficiency credit for Sinclair Community College CJS 2205.	A science course specifically for Criminal Justice and Biotechnology students. The course will expose students to the scientific aspect of investigating crime scenes or accidents to make determinations of their causes. The course focuses on the physical sciences with some content addressing human anatomy and physiology. 1 credit (physical science)
Forensic Science II	A science course specifically for Criminal Justice students. The course will further expose students to the scientific aspect of investigating crime scenes or accidents to make determinations of their causes. Major course topics will be Arson and Fire Investigation, Explosions, Entomology, and Odontology. The course focuses on the physical sciences with some content addressing human anatomy and physiology. 1 credit (physical science)
Microbiology	This is an introductory course that covers microbiology and the impact these organisms have on humans and environment. Topics include the various groups of microorganisms, their structure, physiology, genetics, microbial pathogenicity, infectious diseases, immunology, and selected practical laboratory applications. Upon completion students should be able to differentiate between microorganisms through laboratory investigations, lecture, & student lead collaboration and demonstrate knowledge and skills in laboratory technique through construction of a laboratory notebook. The course is designed for students who are interested in exploring a career in a medical field and are self-directed learners. Prerequisite: Successful completion of Anatomy and Physiology. Recommended co-requisite: Chemistry 1 credit (life science)
Physics	This is a college prep course which combines the conceptual approach of Applied Physics Principles and a more formal mathematical approach using trigonometry and algebra. The following systems are studied: Mechanical, Thermal, Electrical-Magnetic, Fluid, and Optical Systems. The course involves

	"hands-on" lab work designed to help the student master the concepts. Recommended co-requisite: Pre-Calculus or Calculus 1 credit (physical science)
Biology EOC Prep	This course prepares students to retake the Biology end-of-course exam if they earned a 1 or a 2 on a previous attempt of the exam. Students in this course must have taken a full year of Biology prior to enrollment. <u>This course may be used to complete a Biology deficiency at the discretion of the partner school.</u> This course is not NCAA approved. 0.5 credit

## English

College Credit Plus English I	Clark State ENG 1111 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus English II	Clark State ENG 1112 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required. Students must complete ENG 1111 with a C or higher before taking ENG 1112.
College Credit Plus Great Books	Clark State ENG 2300 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required. Students must (1) complete ENG 1111 and ENG 1112 with a C or higher before taking ENG 2300 or (2) complete ENG 1111 with a C or higher and be concurrently enrolled in ENG 1112
British Literature	British Literature is a chronological survey of historical to modern British literature for college-bound juniors and seniors. Students who choose British literature will be challenged in various areas of literature and writing. The curriculum includes the following: a survey of British Literature in print, film, and on-line genres; producing an analytical research paper; and the production of a résumé and other functional documents. This course aligns with Ohio's New Learning Standards in English language arts. British Literature is an option for juniors who have excelled in areas of Language Arts and who are ready for and/or desire an advanced option. 1 credit
English III	The curriculum develops reading, writing, speaking, and listening skills through both thematic units and study of American literature. In addition to learning about American literature, all students complete a researched paper and résumé, and participate in independent reading. This course aligns with Ohio's New Learning Standards in English language arts. 1 credit
English IV	This course is designed for college-bound seniors and those who plan to work directly after high school. The curriculum includes the

	following: technical writing, both nonfiction and fiction reading, integrated grammar, both formal and informal presentations, a research project, and production of a resume, reference sheet, and cover letter. This course aligns with Ohio's New Learning Standards in English language arts. 1 credit
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## Social Studies

College Credit Plus Government	Sinclair PLS 1120 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required. This course is currently offered in an online format.
College Credit Plus Sociology	Sinclair SOC 1101 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus U.S. History I	Sinclair HIS 1101 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus U.S. History II	Sinclair HIS 1102 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
College Credit Plus Online Social Studies	Courses offered in online format during the MVCTC school day. HIS 1111 Western Civilization I (3 semester hours) HIS 1112 Western Civilization II (3 semester hours) PSY 1100 General Psychology (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
American History	This course aligns with Ohio's Social Revised Standards in Social Studies as part of Ohio's New Learning Standards. The course also prepares students for success on the American History End-of-Course Exam. 1 credit
Global Issues: Latin America & Europe	Students in Global Issues: Latin America & Europe will explore and analyze cultures, histories, religions, current events, geography, and biographies associated with these regions with the goal of understanding the globalization issues of the 21 <sup>st</sup> Century. This course requires proficiency in independent reading, writing, and Internet research. 0.5 credit
Global Issues: Africa & Asia	Students in Global Issues: Africa & Asia will explore and analyze cultures, histories, religions, current events, geography, and biographies associated with these regions with the goal of understanding the globalization issues of the 21 <sup>st</sup> Century. This course requires proficiency in independent reading, writing, and Internet research. 0.5 credit

Government & Economics	All students must take this course, which is generally scheduled during a student's junior year. An integrated social studies course in which emphasis is placed on government and economics. This course includes the economic and financial literacy required by the Ohio Core. It aligns with Ohio's Social Revised Standards in Social Studies as part of Ohio's New Learning Standards. The course also prepares students for success on the American Government End-of-Course Exam. 1 credit
Psychology	Students will study and explore the behavior and mental development of human beings. In their study of psychology, students will be introduced to the stages of human development, cognitive functions, personality, abnormal behavior, as well as learning and memory. Students should be prepared to analyze case studies and engage in critical thinking about the various topics associated with the course. This course is approved by the NCAA as a core course. 0.5 credit
Sociology	Students studying sociology will study how social structures like families, the workplace, friends, and civic organizations influence the way one behaves in society. Further, students will use social studies methods to examine social problems, social institutions, and various social groups in an effort to understand our diverse society. Students should be prepared to read independently, think critically, and share what they have learned in a written format. This course is approved by the NCAA as a core course. 0.5 credit
World History	This course examines world events from 1600 to the present. It explores the impact of the democratic and industrial revolutions, the forces that led to world domination by European powers, the wars that changed empires, the ideas that led to independence movements and the effects of global interdependence. The concepts of historical thinking introduced in earlier grades continue to build with students locating and analyzing primary and secondary sources from multiple perspectives to draw conclusions. This course is approved by the NCAA as a core course. 1.0 credit
Social Studies EOC Survey	This course prepares students to retake the American History and/or the American Government end-of-course exam if they earned a 1 or a 2 on a previous attempt of the exam. <u>This course may be used to complete a deficiency at the discretion of the partner school.</u> This course is not NCAA approved. 0.5 credit

## World Languages

Spanish 2	This course is an optional course for juniors and seniors that will teach the speaking, listening, reading, and writing of the Spanish language. This is a college preparatory course designed for students who have taken one year of Spanish and would like to continue taking
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	<p>a traditional college preparatory Spanish course. This traditional Spanish course draws its entire curriculum from the Ohio Academic Content Standards for Foreign Language. This course is NCAA approved. Pre-requisites include the following: a “C” or better in a regular English class, a “C” or better from a former Spanish class from their homeschools. For senior classes, a “C” or better in a regular English class at MVCTC and also in former Spanish classes. 1 credit</p>
Spanish 3	<p>This course is an optional course for juniors and seniors that will teach the speaking, listening, reading, and writing of the Spanish language. This is a college preparatory course designed for students who have taken two years of Spanish at the homeschool and would like to continue taking a traditional college preparatory Spanish course. This traditional Spanish course draws its entire curriculum from the Ohio Academic Content Standards for Foreign Language. This course is NCAA approved. Pre-requisites include the following: a “C” or better in a regular English class, a “C” or better from a former Spanish class from their homeschools. For senior classes, a “C” or better in a regular English class at MVCTC and also in former Spanish classes. 1 credit</p>

## Electives

**Elective courses are available based on a students' career tech program. Students will need to refer to their career tech program to determine value-added/elective classes available to them.**

College Credit Plus Effective Public Speaking	Sinclair COM 2211 (3 semester hours) Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required.
ACT Prep	This semester course is designed with the goal of helping students prepare for the American College Test (ACT). Students will be introduced to test taking strategies, practice tests, and sample questions with the goal of helping to prepare students for the (ACT) Assessment. Students will work on skills that may enhance college and career readiness. 0.5 credit
College Credit Plus MAN 1107 Foundations of Business	MAN 1107 (3 semester hours) This semester long elective course reflects the the American business system and basic principles of the free market system. Includes introduction of business concepts, entrepreneurship, management, marketing, economics, accounting and other important business principles. Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required. 1 credit
Blueprint Reading	This semester course will provide students the opportunity to learn about construction Blueprint Reading. Dependent upon instructor credentials students may be introduced AutoCad and 2D/3D modeling. 0.5 credit
Business Software	This semester course will provide students the opportunity to develop and follow an individualized plan to learn software applications used in business. Software training options may include: Adobe C, Microsoft Office, QuickBooks, Basic web and interactive design, 2D/3D modeling, video and audio editing and others. 0.5 or 1 credit.
Certifications	This semester course provides students with the opportunity to obtain various industry credentials or MVCTC certifications that may not be offered in the student's career technical program. The OSHA 10 hour safety certification is offered in the following areas; Construction, General Industry, Agriculture, and Healthcare. A Forklift certification may also be earned during this class. 0.5 credit
Child Development Associate	This yearlong course is designed to prepare <u>seniors in the Early Childhood Education program</u> for the Child Development Associate certification. Students in this course will compile a portfolio of documented activities, hours of study across ten topics, and time spent working with children. Students will gain essential skills to become a competent teacher of young children. Upon meeting requirements students may apply to take the Child Development Associate certification exam. 1 Credit
Child Development Theory	This yearlong course is designed to assist <u>juniors in the Early Childhood Education program</u> in developing the necessary skills to work with children in preschool settings. Students will develop materials and

	design learning experiences to support the <i>Early Learning Content Standards</i> . The specific content of the course includes: designing safe environments, developing appropriate activities for physical, intellectual, social and emotional development, stimulating creative abilities and problem solving, enhancing communication skills, and learning child development theories and practices. 1 Credit
Culinary Foundations	This yearlong course is designed to assist juniors in the Culinary Arts program to gain the math skills needed for the profession. Topics include recipe conversion, calculations involving purveyors list, recipe costing, food cost percentages, menu pricing, accounting techniques, payroll calculations, taxes, and budgeting. Students will also study sanitation and safety principles to earn national Serv-Safe certification, learn about nutrients and their functions, dietary guidelines, as well as menu planning for special diets. Successfully passing the Serv-Safe exam will provide students with a credential for an entry level position in the restaurant industry or post-secondary education. 1 Credit
Customer Service	This semester course contains an introduction to customer service. Topics include communication with customers via phone or in a face-to-face setting, the importance of workplace behavior, professionalism, decision making, solving customer problems, conflict resolution, and negotiation skills. This course also includes the use of emerging technologies, role play scenarios, and case studies. Successful completion of this course may permit the student to take proficiency test(s) to earn 3 college credits. 0.5 credit
College Credit Plus BIS 1120 Introduction to Software Applications	BIS 1120 (3 semester hours) This semester course uses word processing, spreadsheet, database and presentation software applications to create reports, spreadsheets, databases and presentations for business and other applications. Students must achieve a qualifying placement test score to be eligible for college credit. Sufficient enrollment is required. 1 credit
Fab Lab	The Miami Valley CTC Fab Lab is modeled after Neil Gershenfeld's fab labs at MIT and around the world. This junior/senior course will provide 21st Century creation opportunities for students with basic skills, imagination, and the desire to invent using cutting-edge technology and processes. Students will focus on solving real-world problems through invention, exploration, and the application of technology. Students will learn project management skills, how to use resources wisely, and the importance of communication skills. Students may have the opportunity to create and become familiar with additive manufacturing technology by working on one of the lab's 3-D Printers. Additionally, students may have the opportunity to work with a variety of equipment/technology that may include a CNC mill, Epilog laser cutter, drill press, shop bot, vinyl cutter, and miscellaneous power tools. 0.5 credit

Food Safety & Nutrition	This semester course will allow students to learn dietetics, nutrition, food safety, and food preparation or storage skills. This elective provides an excellent opportunity for hospitality services, sports medicine, and allied health students, but is open to students from any career area. Students have the ability to earn the Serv-Safe Food-Handler certificate. Basic first aid and safety will also be covered. 0.5 credit
Personal Finance	This semester course will provide students with the opportunity to acquire knowledge in the areas of personal finance, banking, bonds, consumer credit, insurance, investing, mutual funds, stocks, and tax strategies. This hands-on course will provide the essential knowledge and tools to become a financially stable individual in today's world. 0.5 credit
Small Business Ownership	This semester long elective course will provide students with the opportunity to acquire knowledge in the areas of owning a small business, effects of government regulations and business ethics on entrepreneurial ventures, elements of business organization, and personal management concepts. .5 Credit 0.5 credit

## Career Tech Programs

All career-technical programs at MVCTC are Tech Prep programs. Upon completion of a program, students meeting the Tech Prep requirements qualify for the Tech Prep designation and the Sinclair Community College Tech Prep scholarship.

Agriculture and Livestock Production	The 65 acre farm and livestock laboratory at MVCTC offers these students the latest agriculture technology. Students study livestock care, plant and soil management, machine operation and maintenance, conservation, marketing, purchasing and inventory, business regulation and law, financial planning, genetics, computer technology, and leadership skills and use this information to apply business principles to make management decisions. This is a Tech Prep option program with a connection to both Sinclair Community College and Clark State Community College. 3 Credits junior year; 4 Credits senior year
Animal Care & Management	Students in this program study animal store management, animal husbandry, animal physiology, animal examination skills on both large and small animals, clinic procedures, ward and kennel procedures, grooming techniques, office skills, and entrepreneurship. The Animal Science Management students operate a public store and offer sales and services. 3 Credits junior year; 4 Credits senior year
Architecture Design	This program builds strong foundations in classical drafting, modeling, state-of-the-art computer-assisted drafting (CADD) systems, and 3-D modeling using AutoCAD Inventor and AutoCAD

	Revit. The students will learn to translate ideas and sketches from engineers, surveyors, architects, and scientists into detailed drawings used in manufacturing and construction. 3 Credits junior year; 4 Credits senior year
Auto Collision	Students in this program may earn ICAR Pro Level 1 Refinishing Certification in welding, auto detailing, basic metal straightening, metal filing, sanding, refinishing, refinishing trim and hardware, removing and replacing parts, plastic repair, electrical systems, cooling systems, and estimating. 3 Credits junior year; 4 Credits senior year
Auto Services	This program is designed for students who need a more structured, slower paced course and have lower reading and math levels. Students will learn automotive maintenance; automotive detailing; oil and lube service; tire service, balancing and rotation; and automotive parts identification and replacement. 3 Credits junior year; 4 Credits senior year
Automotive Technology	Students in this program learn how to repair, service, and maintain cars, vans, and light trucks. They study engine repair, suspension and steering, brakes, electrical systems, heating and air conditioning, and engine performance. Student ASE certification in Brakes, Steering Suspension and Alignment, Engine Repair, and Engine Performance may be earned after successfully completing two years in this program. Students will be credited with one year "on the job" experience toward ASE certification. 3 Credits junior year; 4 Credits senior year
Aviation Maintenance Technician	In this FAA certified program, students study aircraft drawings, basic electricity and physics, airframe structures, aircraft systems and components, certification requirements, and employability skills. They will learn how to service, repair, and overhaul aircraft engines to ensure safe and dependable performance. Students have the opportunity to earn an Associate's Degree from the University of New Mexico by taking 4 on-line classes and passing the FAA certification tests. 4 lab credits & 2 related credits each year
Biotechnology	In this program, students will study microbiology, biosafety, bioethics, molecular research, forensic investigation, and other new technology. Biotechnology helps people live better lives in a healthier world. 3 Credits junior year; 4 Credits senior year
Business Ownership	Do you dream of owning your own retail store, restaurant, or other business? In the Business Ownership program, you will learn how to accomplish your dream of owning your own business. Students will learn to think creatively to determine how their business will be successful. Learn to transform your ideas and dreams into a business plan – from the market research, to the naming of your business, to the management of your employees. 3 Credits junior year; 4 Credits senior year

Computer Coding and Web Applications	Learn to create software applications using Java, 3D animations, computer games, and interactive web applications using programming code and specialized software. You will also design a complete web e-commerce site using PHP programming and create web pages that have creative visitor interaction. 3 Credits junior year; 4 Credits senior year
Computer Network Engineering	This program will prepare students for the demands and enormous opportunities in designing, building, and maintaining computer networks by receiving training through the CISCO Systems Networking Academy, which is a complete four-semester program. 3 Credits junior year; 4 Credits senior year
Computer Repair and Technical Support	Students learn about operating systems, troubleshooting PC problems, working with end-users, and developing a raspberry pii emulator that students will keep. Also, prepare for the CompTIA A+ Certification Exam. 3 Credits junior year; 4 Credits senior
Construction Carpentry	In this program, students study safety procedures, blueprint orientation, construction math, basic construction, use of power tools, project planning, estimating, and new home construction. These basic skills are put to use in the building of a new house during the second year of training. Students in this program earn certifications in Level 1 & 2 Carpentry, Residential Methods, and Commercial Methods after completing the “National Center for Construction Education and Research” (NCCER) Curriculum. Students may have the opportunity to enter the workforce through our apprenticeship program while attending school their senior year. 3 Credits junior year; 4 Credits senior year
Cosmetology	This program provides students with competency-based technical instruction to prepare them for the State Board of Cosmetology test to become licensed cosmetologists. The curriculum includes shampooing, tinting, lightening, permanents, cutting and styling hair, manicures, scalp and facial treatments, and make-up analysis. This program operates a full-service salon on campus. 4 lab credits & 1 related credit junior year; 4 lab credits & 1 related credits senior year
Criminal Justice	In this program, students study law, report writing, data processing, administration of justice, patrol techniques, first aid, business and industrial security, forensic science, radio communications, dispatching, self-defense, public relations, and military drills. Students have the opportunity to earn several certifications. 3 Credits junior year; 4 Credits senior year
Culinary Arts	This program prepares students for post-secondary education or to go directly into the industry in an entry-level position. Students gain knowledge of basic food preparation skills, terminology, knife skills, safety and sanitation, menu planning, food purchasing, and

	inventory control. This program operates an on-site restaurant with a full-service menu. 4 Credits each year; 1 related credit junior year
Dental Assistant	In this program, students learn how to assist dentists in preparing, examining, and treating patients. They also study methods of assisting with instruments, anesthetics, and dental materials. Students meeting requirements may sit for the Certification for Ohio Dental Assistants (CODA) examination. 3 Credits junior year; 4 Credits senior year
Diesel Power Technologies	Students use computers and modern diagnostic equipment to service and diagnose over-the-road trucks and off-road equipment such as bull dozers, track hoes, and farm equipment. Specific areas of instruction include Diesel Engines, Power Trains, Electrical/Electronics, and hydraulics as well as learn basic operation skills and leadership. Students have the opportunity to earn up to 12 credits at the University of Northwestern Ohio. 3 Credits junior year; 4 Credits senior year
Digital Design	This program gives students practical experience in graphic design, photography, video, audio, multi-media, web page design, and DVD authoring. An introduction to 3D modeling and animation is also included. 3 Credits junior year; 4 Credits senior year
Early Childhood Education	In this program, students learn how children develop physically, socially, emotionally, and mentally. They observe child development and apply this learning while assisting in the operation of a preschool for 3-5 year-old children on the MVCTC campus. Students will be eligible to earn their Child Development Associate (CDA) certification during their senior year. 4 Credits each year
Electrical Trades	Students in this program learn basic electricity, residential and commercial wiring, safety procedures, local and national electrical codes, troubleshooting circuits, motor controls, and professional employability skills. Students in this program earn certifications after completing the "National Center for Construction Education and Research" (NCCER) Curriculum. Students may have the opportunity to enter the workforce through our apprenticeship program while attending school their senior year. 3 Credits junior year; 4 Credits senior year

Firefighter / EMS	<p>If you enjoy meeting and helping people, can quickly assess and stay calm in intense situations, and like a variety of challenges, join the Firefighter and Emergency Medical Services (EMS) program. In this program, students will learn rescue, fire suppression, and technical skills; gain emergency medical training, experience social aspects of firefighting such as teamwork and station etiquette; utilize industry tools for entry, extraction, and addressing hazardous materials; perform drills, inspections, and life saving techniques. Upon completion of this program, students meeting the requirements may earn Firefighter II, EMT Basic, and CPR and First Aid certification. Students will also be prepared to take the EMT-Basic test. 3 Credits junior year; 4 Credits senior year</p>
Graphic Commercial Art	<p>In this program, students will learn how to create artwork for advertising agencies, newspapers, magazines, books, billboards, and packages. They will develop ideas, prepare sketches, choose color and lettering, draw finished artwork, and produce camera-ready art electronically through graphic computer programs. 3 Credits junior year; 4 Credits senior year</p>
Graphic Commercial Photography	<p>This program prepares students for shooting, processing, and printing photographs. They will begin study with an introduction to film, photography, then camera function and format, lenses, lighting, color technology, digital photography, studio techniques and much more. 3 Credits junior year; 4 Credits senior year</p>
Health Occupations	<p>Throughout the two-year program, students have the opportunity to gain knowledge and skills in many health related areas. Students gain knowledge in areas such as anatomy &amp; physiology, medical terminology, medical math, legal and ethical issues, safety, body mechanics, human growth and development, and nutrition. During hands-on practice, students learn patient-care skills such as vital signs, administering medications, hearing and vision tests, performing EKG's, drawing blood, performing laboratory tests, personal care, and ambulating patients. The program operates in simulated work environments to develop a person's work ethics, professionalism, and employability skills. 3 Credits junior year; 4 Credits senior year</p>
Heating, Ventilation, and Air Conditioning (HVAC)	<p>This program provides students with necessary skills in basic electricity, blueprint reading, fuel systems, installation, job safety, systems troubleshooting, and metal fabrication, brazing, and soldering. Students in this program earn certifications after completing the "National Center for Construction Education and Research" (NCCER) Curriculum. Upon completion of the program students will be prepared to enter the workforce in both heating/ventilation &amp; air conditioning (HVAC) and sheet metal. Students may have the opportunity to enter the workforce through our apprenticeship program while attending school their senior year.</p>



	They also have the opportunity to earn EPA certification. 3 Credits junior year; 4 Credits senior year
Heavy Equipment Operator	In this program, students learn basic equipment operation, safety procedures, equipment maintenance, and welding skills. Students receive training in the field of residential and industrial construction equipment operation. Students in this program earn certifications after completing the “National Center for Construction Education and Research” (NCCER) Curriculum. Students may have the opportunity to enter the workforce through our apprenticeship program while attending school their senior year. 3 Credits junior year; 4 Credits senior year
Hospitality Services	This program is designed for students who need a more structured, slower paced course and have lower reading and math levels. Students are trained in the areas of hospitality and facility care, dietary aide and therapeutic recreational aide. Work site training programs provide hands on experiences. Co-op work experience is available for second-year students who have transportation. 4 Credits each year
Media and Video Production	Students in this program study video and audio production, computer graphics, interactive media production, graphic design, digital imaging, photography, web page design, and many software packages. 3 Credits junior year; 4 Credits senior year
Medical Lab Assisting	The Medical Lab Assisting program content will be focused around the laboratory services provided in the health care industry. Students that have an interest in working in health care, but not necessarily with direct patient care would be ideal candidates. The program will be aligned with the Sinclair Medical Lab Assisting (formerly Specimen Processing) with potential to earn one-year certification. 3 Credits junior year; 4 Credits senior year
Medical Office Management	Hospitals and medical offices rely on their trained medical office staff to perform a wide variety of duties. Medical office personnel greet and register patients, maintain patient records, schedule appointments, bill patients, work with health care insurance companies, collect patient’s co-payments and perform administrative and management duties to keep the medical office running smoothly. 3 Credits junior year; 4 Credits senior year
Natural Resource Management	Natural Resource Management students are preparing for a career in one of several areas that include Alternative Energy Technician, Geographic Information Systems (GIS), Global Positioning System (GPS), Forestry, Fisheries & Wildlife Management, Surveying & Soil Conservation, Parks and Recreation, Water & Wastewater Treatment, Environmental and Hazard Protection, and Environmental Regulations. Students also have the opportunity to earn up to 30 college credits at Hocking College. 3 Credits junior year; 4 Credits senior year

Pre-Nursing	The Pre-Nursing program content will align with Sinclair pathway for nursing students (i.e., CC+ recommendations for core academics and integration into programming per staff credentials). Coordination with on-campus related academics will vary per student. Students in this program should have a strong academic skill set in math and science. 3 Credits junior year; 4 Credits senior year
Precision Machining	In this program, students will build their own projects as well as class projects, like choppers and battling robots, using blueprints, SolidWorks 3D design software, vertical and horizontal milling machines, lathes, surface grinding, drill presses, power saws, computer numeric control (CNC) machine programming, and Feature CAM CAD/CAM software. 3 Credits junior year; 4 Credits senior year
Retail Agriculture Services	This program is designed for students who need a more structured, slower paced course and have lower reading and math levels. Students develop problem-solving skills, become more self-directed, and gain technical knowledge all of which leads to entry level retail employment in an agricultural field. Instruction in this field includes: customer service experience, greenhouse operation, plant production, lawn equipment operation, landscape maintenance, and leadership skills. 3 Credits junior year; 4 Credits senior year
Robotics and Automation	This program is a cooperative with the statewide initiative, RAMTEC, and will provide students with a basic understanding of Fanuc, Kuka, and Motoman robotic programming, material handling and automation principles, electrical controls and sensors, hydraulic and pneumatic controls, Computer Assisted Design (CAD) and solid modeling using SolidWorks, CNC plasma cutting, robot design and construction for combat robotics competitions, data acquisition and analysis, and safety. Students in this program may take College Credit Plus classes with Sinclair and may receive up to 11 semester hours of college credit. 3 Credits junior year; 4 Credits senior year
Sports Management and Marketing	In Sports Management and Marketing, students study the exciting field of Sports and Entertainment Marketing. Topics include: events marketing, promotional marketing, entrepreneurship, branding, sales, television and radio marketing. Students develop skills in public speaking, business documentation creation, spreadsheet and database analysis, presentation skills, video/film editing and graphic design. 3 Credits junior year; 4 Credits senior year
Sports Medicine	This program prepares students for post-secondary education in a variety of science and health related careers. Students in this program will learn emergency procedures and safety, gain skills to help others prevent sports injuries, treat and manage athletic injuries, and develop exercise programming. They will also learn

	about rehabilitation plans, exercise science, nutrition and weight management, and fitness training. During the senior year, students will have the opportunity to participate in internships at a variety of health related sites. 3 Credits junior year; 4 Credits senior year
Veterinary Science	This career program prepares students for the further training they will need to become a Veterinary Technician, or with further education, a Veterinarian. Students will use veterinary style facilities to learn animal physiology, animal examination skills, administrative and clinic procedures, office skills, computer technology, and laboratory techniques. 3 Credits junior year; 4 Credits senior year
Welding	This program will provide students with a basic understanding of arc welding, oxy acetylene welding and cutting, plasma cutting, carbon arc, gas metal arc welding, tungsten inert gas welding, shielded metal arc welding, fabrication, blueprint reading, welding symbols, and welding safety. 3 Credits junior year; 4 Credits senior year