

# Grant County High School

## Course Catalog 2022-2023

### Principal

Clay Mattingly

### Associate Principal

Larry Butler

### Assistant Principals

Scott Draud

Nicole Davis

### Curriculum Specialists

Kate Benson

Leigh Simpson

### ECAP Director

Laura Smith

### School Counselors

Haley Carr (12<sup>th</sup> grade)

Tracy Childers (10<sup>th</sup> & 11<sup>th</sup> grades)

Kristen Kaliin (9<sup>th</sup> grade)

715 Warsaw Road, Dry Ridge, KY 41035

Phone: (859) 824-9739

Fax: (859) 824-9756

## **Table of Contents**

<b>Early College</b>	<b>4</b>
<b>Language Arts</b>	<b>5</b>
<b>Mathematics</b>	<b>8</b>
<b>Science</b>	<b>12</b>
<b>Social Studies</b>	<b>15</b>
<b>Health and Physical Education</b>	<b>18</b>
<b>Agriculture</b>	<b>20</b>
<b>Agriculture Pathways</b>	<b>24</b>
<b>Automotive</b>	<b>28</b>
<b>Automotive Pathway</b>	<b>30</b>
<b>Biomedical</b>	<b>31</b>
<b>Biomedical Pathway</b>	<b>34</b>
<b>Business</b>	<b>35</b>
<b>Business Pathway</b>	<b>38</b>
<b>Electrical Technology</b>	<b>39</b>
<b>Electrical Technology Pathway</b>	<b>40</b>
<b>Engineering</b>	<b>41</b>
<b>Engineering Pathways</b>	<b>44</b>
<b>Family and Consumer Science</b>	<b>47</b>
<b>Early Childhood Education Pathway</b>	<b>50</b>
<b>Culinary Pathway</b>	<b>53</b>
<b>Foreign Language</b>	<b>54</b>
<b>Health Sciences</b>	<b>55</b>
<b>Health Sciences Pathway</b>	<b>57</b>
<b>Information Technology</b>	<b>58</b>
<b>Information Technology Pathways</b>	<b>61</b>
<b>JROTC</b>	<b>63</b>
<b>Media Studies</b>	<b>64</b>
<b>Visual and Performing Arts</b>	<b>65</b>
<b>Welding Technology</b>	<b>70</b>
<b>Welding Technology Pathway</b>	<b>72</b>
<b>Other Courses</b>	<b>73</b>

*GCHS is College and Career Ready!*

### **REGISTRATION REMINDERS**

1. **Registration is very important!** Be sure to spend time planning what you want to take. Select courses with care and carefully fill out all forms. Be sure to involve your parents or caregivers. All courses are not offered every year so **PLAN AHEAD** for courses that you will need before graduation.
2. In making your schedule, keep in mind the Pre-College Curriculum. Some colleges require even more academic credit in the areas of English, Math, Science, Social Studies, and Foreign Languages than is required for graduation from GCHS.
3. All AP and dual credit courses are weighted on a 5.0 scale.
4. If you need help in determining what is taught in some classes or levels of classes, discuss the class with your present teachers or counselor. They will be able to help you make decisions on whether to take the class or not.
5. **If you have failed a required course, it is your responsibility to know what courses you need to make up. If you have a concern or question, see your counselor before completing your schedule.**
6. Electives are courses you choose to take in addition to requirements. In areas where a student takes more classes than are required, the additional classes become electives. For example: A fifth math class will count as an elective. It is not necessary to retake an elective course you failed.
7. All information contained in this guide is subject to change at any time.

### **YOUTH SERVICE CENTER**

Tyler Mullins, Director, GCHS YSC  
(859) 824-9739

The goal of the YSC is to remove barriers to a student's education. Ongoing programs include tutoring, mentoring, support groups (teen parents, anger management, tobacco cessation), food pantry, peer mediation, attendance, resource library, and crime checks for volunteers.

## ***EARLY COLLEGE***

### **NORTHERN KENTUCKY UNIVERSITY SCHOOL-BASED SCHOLARS**

**Credit Varies/Grades 11-12**

**Prerequisite: Application, 3.0 GPA, ACT benchmarks met, additional prerequisites may apply to specific classes.**

The SBS program allows eligible high school students to take up to 8 NKU classes prior to high school graduation. **Course offerings will be presented by NKU in the semester prior to enrollment. If a SBS student applies to NKU as a freshman, the application fee will be waived.**

### **GATEWAY COMMUNITY & TECHNICAL COLLEGE REGIONAL ACADEMY**

**Credit Varies/Grades 11-12**

**Prerequisite: Application, ACT benchmarks met, 3.0 GPA**

In KCTCS dual-credit programs, such as Gateway Community and Technical College, eligible students can earn credit that goes towards their high school requirements; and at the same time, also earn college credit. Course offerings will be presented by GCTC in the semester prior to enrollment. Student must meet with dual-credit school counselor, Haley Carr, to select their courses.

### **THOMAS MORE UNIVERSITY DUAL-CREDIT PROGRAM**

**Credit Varies/Grades 11-12**

**Prerequisite: Application, ACT benchmarks met, 3.0 GPA**

The Thomas More University Dual-Credit Program offers eligible high school students the opportunity to take college courses at a reduced tuition rate while exposing them to college rigor. Course offerings will be presented by TMU in the semester prior to enrollment.

Students who take dual-credit courses through Thomas More are eligible for up to \$1000 in scholarship for their first semester as a full-time Thomas More Student.

**\*Note: Though NKU and Gateway are the most often accessed dual-credit offerings in which GCHS students enroll, other options may be available. In this case, a student should talk with the dual credit counselor, Ms. Carr.**

**\*All dual-credit courses obtained through an accredited university or college will receive weighted credit at GCHS.**

## ***LANGUAGE ARTS***

All English courses are full year with the exception of English IV or dual credit equivalents to English III and/or English IV. Students must successfully complete **FOUR** credits of English for graduation. **Placement in an English course may be determined by student assessment data.**

### **230107-ENGLISH I**

**1 Credit/Grade 9**

**Prerequisite: None**

**\*Course Required for Graduation.** This course is designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The course also requires students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas.

### **H230107-ENGLISH I HONORS**

**1 Credit/Grade 9**

**Prerequisite: A/B average in previous English course; Assessment data**

This course meets the English I requirements but emphasizes higher level skills and serves as a feeder program for AP English Language.

### **230110-ENGLISH II**

**1 Credit/Grade 10**

**Prerequisite: English I**

**\*Course Required for Graduation.** This course is designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The course also requires students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas.

## H230110-ENGLISH II HONORS

**1 Credit/Grade 10**

**Prerequisite: A/B average in previous English course; Assessment data**

This course meets the English II requirements but emphasizes higher level skills and serves as a feeder program for English III AP.

## 230113-ENGLISH III

**1 Credit/Grade 11**

**Prerequisite: English II**

**\*Course Required for Graduation.** This course is designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The courses also require students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas.

## 230166-AP LANGUAGE AND COMPOSITION (ENGLISH III)

**1 Credit/Grade 11**

**Prerequisite: Consent of most recent English instructor, final English II grade of at least 90% or final English II Honors grade of at least 80%, Assessment data**

The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. College credit is earned with a qualifying score on an AP exam. **There is a fee associated with the AP exam.**

**\*This course will receive weighted credit at GCHS**

## 230116-ENGLISH IV

**1 Credit (1 Semester)/Grade 12**

**Prerequisite: English III**

**\*Course Required for Graduation.** The course is designed to present a wide range of reading experiences with print and non-print materials that have literary, informational, persuasive, and practical purposes. The course also requires students to use the writing process and criteria for effective writing to demonstrate their abilities to write in a variety of forms and for multiple audiences and purposes. Students use writing-to-learn and writing-to-demonstrate-learning strategies to make sense of their reading and thinking experiences. Speaking, listening, and observing skills are used to communicate information for a variety of authentic purposes. In addition, students continue to integrate inquiry skills and technology to communicate ideas.

### **DUAL CREDIT OPTIONS FOR ENGLISH III AND/OR ENGLISH IV**

Students may enroll in an accredited dual credit course to fill the requirement for English III (ENG101) and/or English IV (ENG101 or ENG102). Students must meet the admission requirements of the institution in which they plan to enroll for the English course. Please see a school counselor for further instruction.

**\*Dual credit courses will receive weighted credit at GCHS**

## ***MATHEMATICS***

Students must take one math class each year which must include Algebra I, Algebra II, Geometry, and a math elective. Students entering high school in the 2019-20 school year, and following, who received Algebra I credit at the middle school level are required to complete a total of four math credits. **Placement in a math course may be determined by student assessment data and/or teacher recommendation.**

### **270304-ALGEBRA I**

**1 Credit/Grades 9-10**

**Prerequisite: None**

**\*Course required for graduation.** This course is the study of high school Algebra 1 content. Upon completion of the course, students should be able to represent relationships mathematically, develop fluency in writing, interpret expressions and equations, translate between various forms of linear equations and inequalities and use them to solve problems including those that require a system of equations, solve linear equations, apply related solution techniques and the laws of exponents to solve simple exponential equations, understand function definition and notation, contrast linear and exponential graphical representations, make judgments about the appropriateness of linear models, perform arithmetic operations on inequalities, interpret functions and fluently use function notation, construct and compare linear and exponential models and solve related problems, factor quadratic and cubic expressions solve quadratic equations to interpret related quadratic functions and explore non-linear relationships. This course should be designed to meet the high school graduation credit for Algebra 1 and to build a solid foundation necessary for future high school math courses.

### **270401-GEOMETRY**

**1 Credit/Grades 10-12**

**Prerequisite: Algebra I**

**\*Course required for graduation.** This course is the study of high school Geometry content. Upon completion of the course, students should be able to prove theorems and solve problems about triangles, quadrilaterals, and other polygons, apply reasoning to complete geometric constructions and explanations, establish triangle congruence criteria based on analyses of rigid motions and formal constructions, use similarity to solve problems and apply similarity in right triangles to understand right triangle trigonometry (with particular attention to special right triangles and the Pythagorean theorem), develop the Law of Sines and Cosines from understanding relationships in right triangles, apply knowledge of two-dimensional shapes to consider the shapes of cross-sections and the result of rotating a two-dimensional object about a line, connect algebraic concepts to geometric concepts through the rectangular coordinate system (such as deriving the equation of a circle given the center and radius length using the distance formula or Pythagorean Theorem) and prove basic theorems about circles, chords, secants, and tangents.



### **H270401-GEOMETRY HONORS**

**1 Credit/Grades 9-11**

**Prerequisite: Algebra I a grade of A or B and/or teacher recommendation**

This course enriches the same material as Geometry with more emphasis on theory, a higher degree of difficulty in problem solving, and independent study.

### **270311-ALGEBRA II**

**1 Credit/Grades 10-12**

**Prerequisite: Algebra I**

**\*Course required for graduation.** Upon completion of the course, students should be able to use properties of numerical operations to perform calculations involving polynomials, identify zeros of polynomials and make connections between zeros of polynomials and solutions of geometry to extend trigonometry to model periodic phenomena, work with a variety of function families exploring the effects of transformations, analyze functions using different representations, build, interpret and compare functions including square root, cube root, piece-wise, trigonometric and logarithmic functions, identify appropriate functions to model situations, adjust parameters to improve the models, and compare models by analyzing appropriateness of fit.

### **H270311-ALGEBRA II HONORS**

**1 Credit/Grades 9-11**

**Prerequisite: Algebra I, teacher recommendation, and assessment data**

This course enriches the same material as Algebra II with more emphasis on theory, a higher degree of difficulty in problem solving, and independent study.

### **270320-ALGEBRA III**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisites: Algebra I, Algebra II, and Geometry**

This course is designed for students who intend to attend college and are in need of additional preparation in order to be successful in credit-bearing College Algebra.

The content of this course goes beyond a traditional Algebra 2 course and should provide opportunities for students to: solve applied (in context) problems using various types of equations (linear, quadratic, exponential, trigonometric, logarithmic and power functions piece-wise), read and analyze real-life problems using mathematical modeling, perform matrix operations, graph and interpret data represented by linear, quadratic, exponential, logarithmic and power functions, use numerical and graphical data to make reasonable and valid conclusions, solve applied problems that can be modeled with equations and inequalities involving absolute value, solve systems of linear equations using several techniques including matrices, use and verify trigonometric identities, solve applied problems that can be modeled with exponential and logarithmic equations, find terms of sequences and find the sum of finite series.

### **270602 - PROBABILITY AND STATISTICS**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisites: Algebra I, Algebra II, and Geometry**

This course should focus primarily on the conceptual category of Statistics & Probability. If students have not completed courses containing all the required Kentucky Academic Standards for Mathematics, a Probability and Statistics course should attend to standards students still need. Upon completion of this course, students should be able to (1) summarize, represent and interpret data on a single count or measurement variable; (2) summarize, represent and interpret data on two categorical and quantitative variables; (3) interpret linear, quadratic and exponential models; (4) understand and evaluate random processes underlying statistical experiments; and (5) make inferences and justify conclusions from sample surveys, experiments and observational studies. (6) understand independence and conditional probability and use them to interpret data; (7) use the rules of probability to compute probabilities of compound events in a uniform probability model; (8) calculate expected values and use them to solve problems; and (9) use probability to evaluate outcomes of decisions. Technology should be an integral part of this course to generate plots, regressions functions and correlation coefficients and to simulate possible outcomes relatively quickly based on a given situation.

## 270661-MATHEMATICS CONCEPTS

**1 Credit (1 Semester)/Grade 12**

**Prerequisite: Algebra I, Algebra II, and Geometry**

This course is for students who need additional time and support to complete the Kentucky Core Academic Standards for graduation requirements or who may not have attained the benchmark ACT score in mathematics.

This course is designed to be taken after completion of Algebra 1, Geometry and Algebra 2. Topics include probability and statistics, extension of algebra and geometry concepts, and discrete mathematics. This course could serve as a mathematics elective for high school graduation, but not as one of the three required credits for high school graduation: Algebra 1, Geometry or Algebra 2.

## 270501-PRE-CALCULUS

**1 Credit/Grades 11-12**

**Prerequisites: Algebra I, Algebra II, and Geometry**

This course is designed for students to attain the concepts necessary to be successful in a Calculus course, an AP Calculus course or a College Calculus course. Objectives for this course should include, but are not limited to: solve equations and inequalities involving polynomial, rational, exponential, logarithmic and trigonometric functions, understand and apply the behavior and properties of polynomial, rational, exponential, logarithmic, and trigonometric functions, graph polynomial, rational, exponential, logarithmic, and trigonometric functions, use technology to solve and graph various types of equations and inequalities and prove trigonometric identities.

## 270513-AP CALCULUS AB

**2 Credits/Grade 12**

**Prerequisite: Pre-Calculus**

AP Calculus AB is roughly equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. The AP course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions. College credit is earned with a qualifying score on an AP exam. **All students are encouraged to take the AP exam in the spring. There is a fee associated with the AP exam.**

**\*This course will receive weighted credit at GCHS**

## ***SCIENCE***

Students must successfully complete **THREE** credits of science for graduation. Courses required are noted below.

### **304698-PRINCIPLES OF TECHNOLOGY W/EARTH AND SPACE SCIENCE**

**1 Credit (1 Semester)/Grade 9**

**Prerequisite: None**

**\*Course required for graduation.** Students develop understandings of traditional physics and Earth/Space science concepts, as outlined in the Kentucky Academic Standards for Science, through the use of the science and engineering practices. Students investigate concepts of force, work, efficiency, rate, and energy. Students apply conceptual understandings to industrial, technological, and personal situations. The science and engineering practices are the skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. It is suggested that Principles of Technology with Earth/Space Science be taken before either Introductory Chemistry with Earth/Space Science or Introductory Biology with Earth/Space Science.

### **302698-INTRO TO BIOLOGY W/EARTH AND SPACE SCIENCE**

**1 Credit (2 Semesters)/Grade 10**

**Prerequisite: None**

**\*Course required for graduation.** Students develop a conceptual understanding of Biology and Earth/Space Science. They experience biology and Earth/space science concepts, as outlined in the Kentucky Academic Standards for Science, such as structure and function of cells; molecular basis of heredity; biological change; changes in the Earth system; interdependence of organisms; matter, energy and organization in living systems; and the behavior of organisms. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world, and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science.

### **H302698-HONORS INTRO TO BIOLOGY W/EARTH AND SPACE SCIENCE**

**1 Credit (2 Semesters)/Grade 9-10**

**Prerequisites: B+ or better in previous year's science course and recommendation from science teacher**

This course is an in-depth and rigorous course of study designed for students who demonstrate high academic achievement and motivation in science. The topics and depth of coverage will offer a rigorous and challenging introductory life science course.

### 304598-INTRO TO CHEMISTRY W/EARTH AND SPACE SCIENCE

**1 Credit (1 Semester)/Grade 10-12**

**Prerequisite: Biology I**

**\*Course required for graduation.** Students develop a conceptual understanding of Chemistry and Earth/Space Science, as outlined in the Kentucky Academic Standards for Science, through the use of the science and engineering practices. They experience chemistry and Earth/space science concepts such as the structure of atoms, structure and properties of matter, chemical reactions, geochemical cycles, and formation and ongoing changes of the universe. The use of the science practices describes the behaviors students will engage in as they investigate the natural world. Students will learn these core ideas within these topics through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. **This course satisfies the state graduation requirement for physical science.**

### H304598-HONORS INTRO TO CHEMISTRY W/EARTH AND SPACE

**SCIENCE 1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Algebra I, B- or better in Biology and with biology teacher recommendation**

A college preparatory course, this course enriches the material covered in Intro to Chemistry (above). **Chemistry Honors is recommended for all students who intend to attend college-- especially in the physical sciences, medical sciences (nursing, dental, veterinary science, etc.), or engineering sciences. This course satisfies the state graduation requirement for physical science.**

### 302616-FORENSICS

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisites: Biology I and Chemistry I (Highly recommended)**

This course is a problem-based inquiry course dealing with Forensic sciences. This is an elective course that does not count toward the required science credits.

**302621-MARINE BIOLOGY**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Biology I**

This course addresses key concepts related to marine science, including ocean zones, seawater, habitats, and marine taxonomy. Safety instruction is integrated into all activities. This is an elective course that does not count towards the required science credits.

**304620-ENVIRONMENTAL SCIENCE**

**\*not offered the 2022-23 school year**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Technology w/ Earth and Space Science**

Students will develop understanding of environmental concepts as outlined in the Kentucky Academic Standards for Science, such as cycling of matter, biodiversity, earth systems, energy flow and climate, and human impact. Students will learn these core ideas through the use of the science and engineering practices and crosscutting concepts. The science and engineering practices are the skills students will use as they investigate the natural world and develop solutions to problems. The crosscutting concepts are conceptual ways of thinking that cross the domains of science. This is an elective course that does not count toward the required science credits.

## ***SOCIAL STUDIES***

Students must successfully complete **THREE** credits of social studies for graduation.

### **450835-WORLD HISTORY**

**1 Credit (1 Semester)/Grade 9**

**Prerequisite: None**

**\*Course required for graduation.** World History is a survey of the history of the world focusing on cultural and political aspects; ancient and modern history; the study of western and non-western civilizations; and current events.

### **451031-GOVERNMENT AND CIVICS (Formerly Integrated Social Studies)**

**1 Credit (1 Semester)/Grade 10**

**Prerequisite: None**

**\*Course required for graduation.** Government and Civics is the study of citizenship responsibilities and government - introduction; federal, state and local government; organization and function. It also covers the study of United States voting procedures; court operations; local, state and national lawmaking.

### **450812-U.S. HISTORY**

**1 Credit/Grade 11**

**Prerequisite: World History and Integrated Social Studies or Government and Civics**

**\*Course required for graduation.** This course is an overview of the history from Reconstruction through current events; American and world affairs.

### 450814-AP U.S. HISTORY

**1 Credit (2 Semesters)/Grade 11**

**Prerequisite: B or better in World History and Integrated Social Studies or Government and Civics; ability to read and comprehend college-level material; recommendation of sophomore English and social studies teachers; assessment data**

This course focuses on the development of historical thinking skills (chronological reasoning, comparing and contextualizing, crafting historical arguments using historical evidence, and interpreting and synthesizing historical narrative) and the development of students' abilities to think conceptually about U.S. history from approximately 1491 to the present. Seven themes of equal importance - American and National Identity; Migration and Settlement; Politics and Power; Work, Exchange, and Technology; America in the World; Geography and the Environment; and Culture and Society - provide areas of historical inquiry for investigation throughout the course. These require students to reason historically about continuity and change over time and make comparisons among various historical developments in different times and places. The course also allows teachers flexibility across nine different periods of U.S. history to teach topics of their choice in depth. College credit is earned with a qualifying score on an AP exam. **This course requires summer work. It is the student's responsibility to get the summer assignment from the instructor and complete the work before the start of the school year. Summer assignments will be assessed during the first two weeks of the school year. All students are encouraged to take the AP exam. There is a fee associated with this exam.** \*This course will receive weighted credit at GCHS

### 451039-LAW and JUSTICE

**1 Credit (1 Semester)/Grade 11-12**

**Prerequisite: World History, Integrated Social Studies or Gov't and Civics, completed or enrolled in US History**

Law and Justice is a study of law-civil, criminal, constitutional, and international; the legal and justice systems. Students will examine the need for rules and regulations; interpretations of the constitution, both state and federal; Supreme Court decisions; the Bill of Rights, and individual rights law, criminal law, family law, and consumer law. The study of the basic social contracts of society will enable students to understand the preferred democratic values: justice, equality, responsibility, freedom, rule of law, human rights, honesty, equity, rational process and human dignity. This is an elective course that does not count toward the required social studies credits.

### 451121-SOCIOLOGY

**1 Credit (1 Semester)/Grade 11-12**

**Prerequisite: World History, Integrated Social Studies or Gov't and Civics, completed or enrolled in US History**

Sociology is the scientific study of human society. It is concerned with the behavior of human beings in group situations. The study of sociology, therefore, consists of trying to understand: The basic units and institutions of social life, such as the family, schools, neighborhoods, rural and urban communities, and the many other kinds of groups with which humans identify. This group can include occupational, political, religious, ethnic, family, economic status, or ideology. The sociological perspectives focus on how those social relationships arise, why they persist, why antagonisms develop, and how they maintain social order to contribute to social change. This is an elective course that does not count toward the required social studies credits.



**459901-PSYCHOLOGY**

**1 Credit (1 Semester)/Grade 11-12**

**Prerequisite: World History, Integrated Social Studies or Gov't and Civics, completed or enrolled in US History**

Psychology is an introduction to the basic scientific theoretical principles of individual human behavior. Students will be exposed to various topics in the field of psychology research. This is an elective course that does not count toward the required social studies credits.

**451029-POLITICAL SCIENCE**

\*not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grade 11-12**

**Prerequisite: World History, Integrated Social Studies or Gov't and Civics, completed or enrolled in US History**

Political Science is the study of local, national, and foreign political processes. This is an elective course that does not count toward the required social studies credits.

## ***HEALTH AND PHYSICAL EDUCATION***

### **340290-INTEGRATED HEALTH & PHYSICAL EDUCATION**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

**\*Course required for graduation.** This course is designed to give students the opportunity to learn through a comprehensive sequentially planned Physical Education and Health Education program by combining the Kentucky Academic Standards for High School Physical Education and High School Health Education into one course. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Participation is required.**

### **SS340219-ADVANCED SPORT SKILLS**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Integrated Health & Physical Education**

This course offers students the opportunity to strengthen the specific skills of different sports including team and individual sports. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

### **F340219-FOUNDATIONS OF SPORT AND EXERCISE**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Integrated Health & Physical Education**

This course is designed for students to learn about different aspects of sports such as officiating, nutrition, rules, athletic training and careers associated with athletics. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

### **340219-ADVANCED PHYSICAL EDUCATION**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Integrated Health & Physical Education**

This course is designed to be an extension of Physical Education I to provide students with the advanced skills, knowledge, attitude and confidence to be active for a lifetime. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

### A340219-ADVANCED PHYSICAL EDUCATION II

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Advanced PE**

This course is an extension of the regular health and physical ed class. It is designed to expose students to a variety of movement forms through sports and games. Students are required to maintain fitness through sports, weight training, and cardio. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

### 340214-FITNESS CONDITIONING

**Prerequisite: Integrated Health & Physical Education**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Integrated Health & Physical Education with a B or Better and Teacher Approval**

This course emphasizes conditioning activities that help develop muscular strength, muscular endurance, flexibility and cardiorespiratory endurance. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

### W340219-SPORTS ACROSS THE WORLD

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Integrated Health & Physical Education**

This course introduces various sports to the student. All of these sports will be from different countries across the globe. A few of the sports included are cricket, team handball and squash. **Students are expected to dress appropriately for physical activity and wear athletic shoes. Students must be able to do at least 10 minutes of cardio and to participate in weight training. Participation is required.**

## ***AGRICULTURE***

### **030715-PRINCIPLES OF AGRICULTURAL SCIENCE & TECHNOLOGY**

**1 Credit (1 Semester)/Grades 9-10**

**Prerequisite: None**

A foundational course describing the principles, theories and science of the Agricultural food, fiber natural resources industries. Leadership development will be provided through FFA.

### **020501-ANIMAL SCIENCE**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisite: Principles of Agricultural Science & Technology**

A course that describes the theories, principles and science of animals and animal products, including nutrition, disease, management, etc. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program.

\*Industry Certification Course (Must have completed Principles of Agriculture and Small Animal Tech to have the best opportunity of successful completion of the certification.)

### **010641-GREENHOUSE TECHNOLOGY**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Agricultural Science & Technology**

A course that describes theories, principles and the science of producing plants and crops within the greenhouse environment. Includes propagation, fertilization, control of pests, marketing, etc. Leadership development will be provided through FFA.

\*Industry Certification Course (Must have completed Principles of Agriculture) Revised

### **020511 - VETERINARY SCIENCE**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Agricultural Science & Technology**

This course introduces students to the field of veterinary science. Major topics include veterinary terminology, safety/sanitation, anatomy/physiology, clinical exam, hospital procedures, parasitology, posology, laboratory techniques, nutrition, disease, office management & animal management. Careers are also explored.

\*Industry Certification Course (Must have completed Principles of Agriculture)

### **010131-AGRIBUSINESS/FARM MANAGEMENT**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisite: Principles of Agricultural Science and Technology and Animal Science or Small Animal or Vet. Science**

A course that describes theories, principles and the application of farm and business management principles including marketing, financial management, economics, record keeping, inventories, futures trading, labor management, etc.

### **020510-EQUINE SCIENCE**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisites: Principles of Agricultural Science and Technology**

A course that describes the theories, principles and science of horse production and management.

### **010621 - Floriculture and Floral Design**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Agricultural Science and Technology**

Floriculture and Floral Design provides instruction to develop floral design techniques using silk, dried, and fresh flowers. Students will learn operation and management techniques of a floral business as well as identification, production, and cultural maintenance practices of plants used in floral design and interior landscaping. Leadership development will be provided through FFA (Future Farmers of America). Each student will be expected to have a supervised agricultural experience program.

### **010121 - AGRICULTURE EMPLOYABILITY SKILLS**

\*not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Agricultural Science & Technology**

Agriculture Employability Skills provides opportunities to develop skills in: job searching, preparing resumes, writing letters of application, job interview, attitude, communicating effectively, human relations and accepting responsibilities. Leadership Development will be provided through FFA (Future Farmers of America). Each student will be expected to have a supervised agricultural experience program.

\*Industry Certification Course (Must have completed Principles of Agriculture)

**010631 - LANDSCAPE & TURF MANAGEMENT**

\*not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Principles of Agricultural Science & Technology**

This course includes identification of landscape plants and their characteristics, site evaluation, site design, calculation of materials needed, costs for bidding, and installing landscape plans. Landscape plant maintenance will also be presented. Selection, culture, and management of turf species used for lawns, golf courses, athletic fields and erosion control may also be included. Leadership development will be provided through FFA (Future Farmers of America). Each student will be expected to have a supervised agricultural experience program.

\*Industry Certification Course (Must have completed Principles of Agriculture)

**020503-SMALL ANIMAL TECHNOLOGY**

\*not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Principles of Agricultural Science & Technology**

A course that describes the theories, principles, and science of small animals, including pets, nutrition, health, reproduction, training, etc. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program.

**030611-WILDLIFE RESOURCES**

\*not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisites: Principles of Agricultural Science and Technology**

A course describing theories, principles and science of producing, managing, preserving and improving wildlife resources, including habitat management, harvesting marketing, etc.

GCHS Agriculture Education Course Offerings 2022-2026	2022-2023		2023-2024		2024-2025		2025-2026	
	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring
Principles of Ag	X	X	X	X	X	X	X	X
Animal Science	X		X		X		X	
Greenhouse Technology		X		X		X		X
Veterinary Science	X		X		X		X	
Small Animal Science				X				X
Ag Business and Farm Management	X				X			
Wildlife Resources			X				X	
Floral Design		X						X
Equine Science		X				X		
Ag Employability				X				
Landscape Sports Turf Management						X		

## MURRAY STATE UNIVERSITY RACER ACADEMY

### Various Dual Credits/Grades 11-12

**Prerequisite: 3.0 GPA and/or 18 on ACT and/or top half of class; recommendation of GCHS agriculture instructor**

Students can take various agriculture courses online. \$40 application fee (one-time fee) payable to MSU plus additional course fees (varies according to course). Students will receive the appropriate hours of college credit for completing the course assignments, quizzes, mid-term exam, and final exam. Students will have valid college transcript transferable to any state university. Contact receiving university for specific details. Students will follow all university deadlines and guidelines. Must complete an application with school counselor. Courses offered may vary from semester to semester at the discretion of MSU.

**\*Racer Academy courses will receive weighted credit at GCHS**

### Murray State Dual Credit Offerings 2019-20 (changes may occur from semester to semester)

- **AGR 199:** Contemporary Issues in Ag. (3 hours) 030725\*  
Ag Communication or Special Topics in Agriculture
- **AGR 100:** Animal Science (3 hours) 030704\*  
Advanced Animal Science or Special Topics in Agriculture
- **AGR 133:** Field Applications in Agriculture (2 hours) 030726\*  
Agricultural Math or course to be determined by the local teacher
- **AGR 182:** Intro to Pre-Vet Science (3 hours, elective course) 020505\*  
Veterinary Science or Advanced Animal Science
- **AGR 130:** Intro to Agri-Business/Economics (3 hours) 010135\*  
Agribusiness Farm Mgmt, Ag. Sales and Marketing
- **AGR 140:** Plant Science (3 hours) 010615\*  
Greenhouse, Agri-science, floral design, nursery, crop science or any plant science related course
- **AGR 185:** Ag. Leadership (3 hours online) 030727\*  
Ag. Communications, Ag. Sales & Marketing or any course with leadership emphasis

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**



### **Animal Science Systems CIP 01.0901.00**

This pathway focuses on the scientific principles that underline the breeding, care, and management of agricultural animals and the production, processing, and distribution of agricultural animal products. This includes developing better, more efficient ways of producing and processing meat, poultry, eggs and dairy products, as well as studying genetics, nutrition, reproduction, growth and development of animals.

#### **BEST PRACTICE COURSES Choose (1-2) one – two credits from the following:**

030715 Principles of Agricultural Science and Technology  
030711 Agriscience

#### **Choose (2-3) two – three credits from the following:**

020501 Animal Science  
020502 Animal Technology  
020510 Equine Science  
020503 Small Animal Technology  
020511 Veterinary Science

#### **May substitute (1) one credit below for a pathway course:**

010702 Food Science and Technology  
010701 Food Processing, Distribution and Marketing  
020520 Aquaculture  
010111 Agriculture Sales and Marketing  
030713 Agri-biology Interdisciplinary  
010131 Agribusiness and Farm Management  
010121 Agriculture Employability Skills  
030790 Agricultural Education Co-op  
030791 Agricultural Education Internship

## **Horticulture and Plant Science Systems CIP 01.1101.00**

This pathway focuses on the scientific principles that underlie the breeding, cultivation, and production of agricultural plants, and the production, processing, and distribution of agricultural plant products. Includes instruction in the plant sciences, crop cultivation and production, and agricultural and food products processing.

### **BEST PRACTICE COURSES**

**Choose (1-2) one – two credits from the following:**

030715 Principles of Agricultural Science and Technology  
030711 Agriscience

**Choose (2-3) two – three credits from the following:**

010611 Introduction to Greenhouse and Crop Production  
010621 Floriculture and Floral Design  
010641 Greenhouse Technology  
010651 Nursery and Orchard Technology  
010631 Landscape and Turf Management  
010610 Crop Technology

**May substitute (1) one credit below for a pathway course:**

010131 Agribusiness and Farm Management  
010121 Agriculture Employability Skills  
010111 Agriculture Sales and Marketing  
030713 Agri-biology Interdisciplinary  
030790 Agricultural Education Co-op  
030791 Agricultural Education Internship

### **Agribusiness Systems CIP 01.0101.00**

Agribusiness systems contribute to the production, processing, marketing, distribution, financing and development of agricultural commodities and resources. This includes food, fiber, wood products, natural resources, horticulture and other plant and animal products and services. Agribusiness is a high-tech industry that uses satellite systems, computer databases and spreadsheets, biotechnology and many other innovations to increase efficiency and profitability.

#### **BEST PRACTICE COURSES**

**Choose (1-2) one – two credits from the following:**

030715 Principles of Agricultural Science and Technology  
030711 Agriscience

**Choose (2-3) two – three credits from the following:**

010131 Agribusiness and Farm Management  
010121 Agriculture Employability Skills  
010111 Agriculture Sales and Marketing  
010110 Agriculture Communications

**May substitute (1) one credit below for a pathway course:**

010641 Greenhouse Technology  
020503 Small Animal Technology  
030790 Agricultural Education Co-op  
030791 Agricultural Education Internship

## ***AUTOMOTIVE TECHNOLOGY***

According to federal statistics 22% of all jobs are related to transportation. If you like working around, fixing, improving and building cars, trucks or anything else that has an engine, we are the program for you. There are 4 classes available: AMLR A-B-C-D. The 4 classes can be taken freshman through senior year. In all classes *students work in teams* to diagnose, research, repair various problems from individual components on school trainers to entire systems on vehicles. The automotive technology program is nationally certified through NATEF and has several articulation agreements in place with local colleges for students to continue their education. Proper work attitudes and preparation are required and graded in all classes.

### **470507- AUTOMOTIVE MAINTENANCE & LIGHT REPAIR A w/LAB**

**1 Credit (1 Semester)/Grade 9**

**Prerequisite: None**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers' vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. **There is a \$20 lab fee associated with this course.**

### **470509-AUTOMOTIVE MAINTENANCE & LIGHT REPAIR B w/LAB**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers' vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. **There is a \$20 lab fee associated with this course.**

**470511-AUTOMOTIVE MAINTENANCE & LIGHT REPAIR C w/LAB**

**2 Credits (2 Periods, 1 Semester)/Grades 11-12**

**Prerequisite: AMLR A or B**

**This course is taught in the spring for 2 periods.**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers' vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders.

Part of the class work is devoted to the student obtaining certification. College & Career certification is needed to co-op the senior year. Students are expected to use proper shop procedures, work habits, work attitudes at all times. **This course is taught in the spring semester only. There is a \$20 lab fee associated with this course.**

**470513- AUTOMOTIVE MAINTENANCE & LIGHT REPAIR D w/LAB**

**2 Credits (2 Periods, 1 Semester)/Grade 12**

**Prerequisite: AMLR C and A or B**

**This course is taught in the fall for 2 periods to allow seniors to co-op in the spring of senior year.**

These courses introduce the student to the principles, theories, and concepts of Automotive Technology, and include instruction in the maintenance and light repair of Engines, Brake Systems, Electrical/Electronic Systems, Suspension and Steering Systems, Automatic and Manual Transmission/Transaxles, and Engine Performance Systems. In all areas, appropriate theory, safety, and support instruction will be taught and required for performing each task, including proper care and cleaning of customers' vehicles. The instruction will also include identification and use of appropriate tools and testing/measurement equipment required to accomplish certain tasks. The student will also receive the necessary training to locate and use current reference and training materials from accepted industry publications and resources, and demonstrate the ability to write work orders. **There is a \$20 lab fee associated with this course.**

Part of the class work is devoted to the student obtaining career certification. College & Career certification is needed to co-op the senior year. Students are expected to use proper shop procedures, work habits, work attitudes at all times. **This course is taught in the fall semester only and allows seniors to co-op in the spring of their senior year.**

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

### **Automotive Maintenance and Light Repair Technician CIP 47.0604.01**

This is a program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. It includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drivetrains, and heating and air conditioning systems.

#### **BEST PRACTICE COURSES**

**Complete (4) four credits from the following:**

- 470507 Automotive Maintenance and Light Repair Section A
- 470509 Automotive Maintenance and Light Repair Section B
- 470511 Automotive Maintenance and Light Repair Section C
- 470513 Automotive Maintenance and Light Repair Section D

## **BIOMEDICAL SCIENCES**

### **Biomedical Sciences**

The PLTW Biomedical Sciences (BMS) Program is a sequence of courses, all aligned with appropriate national learning standards, which follows a proven hands-on, real-world problem-solving approach to learning. Students explore the concepts of human medicine and are introduced to topics such as physiology, genetics, microbiology and public health. Through activities, like dissecting a heart, students examine the processes, structures and interactions of the human body – often playing the role of biomedical professionals. They also explore the prevention, diagnosis and treatment of disease, working collaboratively to investigate and design innovative solutions to the health challenges of the 21st century such as fighting cancer with nanotechnology.

Throughout BMS, students acquire strong teamwork and communication practices, and develop organizational, critical-thinking, and problem-solving skills. Along the way students investigate a variety of careers in biomedical sciences. During the first year of implementation, schools are required to offer at least one of the foundation courses and ultimately implement all three foundation courses. The capstone course is optional.

BMS courses complement traditional science courses and can serve as the foundation for STEM-centered or specialized academies. The program is designed to prepare students to pursue a post-secondary education and careers in the biomedical sciences.

Biomedical Science will prepare students to enter medical degrees that require 2-10 years of college. Some Biomedical careers include Physicians, Medical Professionals, Researchers in Science, Nanotechnology, Bioinformatics, Biomedical engineering, Pharmaceutical degrees, Genetics, Microbiology, Cell Biology, Biochemistry, Medical Researcher, Lab Technician, Biomedical Salesperson, Clinical Biochemical specialists, Biomechanics, Molecular Design, and Histology.

#### **170701-PRINCIPLES OF BIOMEDICAL SCIENCES (PBS)**

**1 Credit (1 Semester)/Grades 9-11**

**Prerequisite: None**

Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person's life. Key biological concepts including: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease are embedded in the curriculum. Engineering principles including: the design process, feedback loops, fluid dynamics, and the relationship of structure to function are incorporated in the curriculum where appropriate. The course is designed to provide an overview of all the courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses. **There is a \$20 lab fee associated with this course.**

### **70702-HUMAN BODY SYSTEMS (HBS)**

**1 Credit (1 Semester)/Grades 9-11**

**Prerequisite: PBS**

Students will engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health. The systems will be studied as parts of a whole, working together to keep the amazing human machine functioning at an optimal level. Students will design experiments, investigate the structures and functions of body systems, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary actions, and respiratory operation. Students will work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries. **There is a \$20 lab fee associated with this course.**

### **170703-MEDICAL INTERVENTIONS (MI)**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisites: PBS and HBS**

Student projects will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will study the design and development of various medical interventions including vascular stents, cochlear implants, and prosthetic limbs. They will review the history of organ transplants and gene therapy, and read current scientific literature to be aware of cutting edge developments. Using 3-D imaging software and current scientific research students will design and build a model of a therapeutic protein. **There is a \$20 lab fee associated with this course.**

### **170704-BIOMEDICAL INNOVATION (BI)**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisites: PBS, HBS, MI**

This capstone course gives student teams the opportunity to work with a mentor, identify a science research topic, conduct research, write a scientific paper, and defend team conclusions and recommendations to a panel of outside reviewers. Each team will have one or more mentors from the scientific and/or medical community guiding their scientific research. This course may be combined with the capstone course from the pre-engineering pathway, allowing students from both pathways to work together to engineer a product that could impact healthcare. **There is a \$20 lab fee associated with this course.**



**170550-BIOMEDICAL SCIENCES INTERNSHIP-GENERAL**

**1 Credit (1 Semester)/Grade 12**

**Prerequisites: Principles of Biomedical Sciences, Human Body Systems, Medical Interventions**

The practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in the practicum do not receive compensation but are required to submit biweekly timesheets.

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

## **PLTW Biomedical Sciences CIP 26.0102.00**

This pathway focuses on the integrative scientific study of biological issues related to health and medicine, or a program in one or more of the biomedical sciences that is undifferentiated as to title. Includes instruction in any of the basic medical sciences at the research level; biological science research in biomedical facilities; and general studies encompassing a variety of the biomedical disciplines.

### **BEST PRACTICE COURSES Complete (4) four credits:**

170701 Principles of Biomedical Science

170702 Human Body Systems

170703 Medical Interventions

170704 Biomedical Innovations

## ***BUSINESS TECHNOLOGY***

Business and technology are prominent components of our society, thus it is strongly suggested that all students take Digital Literacy. In addition to being a valuable life skill, Digital Literacy serves as a prerequisite for advanced classes and fulfills course requirements for most Career and Tech career majors. It is recommended that students take Digital Literacy as early in their high school career as possible.

In business technology education, students learn many necessary and valuable skills which will increase their marketability as they enter college or the business world. The business curriculum offers interdisciplinary courses, dual credit and highly sought after industry certifications.

Any student who enrolls in a business technology class has the opportunity to join FBLA–Future Business Leaders of America--a co-curricular organization that provides students with an opportunity to develop leadership skills. Our chapter actively participates in community service, social activities, and competitions. All students are encouraged to get involved; FBLA offers students the opportunity to travel, build friendships, and have fun!

### **060111-BUSINESS & MARKETING ESSENTIALS**

**1 Credit (1 Semester)/Grades 9-11**

**Prerequisite: None**

Business and Marketing Essentials is an introductory business and marketing course which enables students to acquire a realistic understanding of business processes and activities. Students examine fundamental economic concepts, the business environment, and primary business activities. They develop an understanding of and skills in such areas as customer relations, economics, emotional intelligence, financial analysis, human resources management, information management, marketing, operations, professional development, and strategic management. Throughout the course, students are presented ethical dilemmas and problem solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through FBLA.

### **060122-ACCOUNTING AND FINANCE FOUNDATIONS**

**1 Credit (1 Semester)/Grades 11-12**

**\*Meets financial literacy standards for Class of 2024 and following**

**Prerequisite: Business and Marketing Essentials**

This course will provide an introduction to both areas of accounting and finance. Topics will include banking, credit, financial literacy, career exploration, spreadsheet usage, and technical writing. The major focus of the course is on the accounting cycle and the communication of financial information to decision-makers. The accounting principles taught in this course are based on a double-entry system and include preparing bank reconciliations, payroll taxes, and financial statements. Detailed career exploration in the various fields of accounting will be available. Leadership development will be provided through FBLA (Future Business Leaders of America)

## **060112-DIGITAL LITERACY**

**1 Credit (1 Semester)/Grades 9-12**

**\*Meets technology competency standards for Class of 2022 and following**

**Prerequisite: None**

Students will use a computer and application software including word processing, presentations, database, spreadsheets, internet, and email to prepare documents and reports. The impact of computers on society and ethical issues are presented.

## **080310-PRINCIPLES OF ENTREPRENEURSHIP**

**1 Credit(1 Semester)/Grades 10-12**

**Prerequisite: Business and Marketing Essentials**

This course introduces students to a wide array of entrepreneurial concepts and skills, including the role of entrepreneurship in our economy, entrepreneurial discovery processes, ideation, and preliminary start-up venture planning. Students also develop an appreciation for marketing's pivotal role in the development and success of a new business. They become acquainted with channel management, pricing, product/service management, and promotion. Students conduct thorough market planning for their ventures: selecting target markets; conducting market, SWOT, and competitive analyses; forecasting sales; setting marketing goals and objectives; selecting marketing metrics; and setting a marketing budget. The capstone activity in the course is the development of detailed marketing plans for students' startup businesses. Throughout the course, students are presented ethical dilemmas and problem solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through FBLA (Future Business Leaders of America)

## **080716-MARKETING PRINCIPLES**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Business and Marketing Essentials**

Marketing Principles introduces students to the dynamic processes and activities in marketing. The course develops student understanding and skills in the functional areas of marketing, as well as business law, communication skills, customer relations, economics, human resources management, and operations. Current technology will be used to acquire information and to complete activities. Throughout the course, students are presented ethical dilemmas and problem-solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through FBLA (Future Business Leaders of America)

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

**Management and Entrepreneurship CIP 52.0701.00**

This pathway generally prepares individuals to plan, organize, direct, and control the functions and processes of a firm or organization. Includes instruction in management theory, human resources management and behavior, accounting and other quantitative methods, purchasing and logistics, organization and production, marketing, and business decision making.

**BEST PRACTICE COURSES Choose (3-4) three - four credits from the following:**

060111 Business and Marketing Essentials  
060411 Introduction to Management  
060122 Accounting and Finance Foundations  
080310 Principles of Entrepreneurship

**Choose (1-2) one - two credits from the following:**

060112 Digital Literacy  
110110 Computer Literacy  
060596 Business Economics (Economics Credit) OR 080317 Business Economics (CTE Credit)  
060108 Business Education Internship  
060107 Business Education Co-op  
080708 Marketing Education Internship  
080707 Marketing Education Co-op  
080716 Marketing Principles  
070750 Microsoft Office Specialist (MOS/MCAS)  
060109 Ethical Leadership

**May substitute (1) one credit below for Accounting and Finance Foundations course:**

070125 Advanced Accounting  
080719 Personal Finance (Math Credit)  
060170 Personal Finance (CTE Credit)  
070122 Financial Management  
080772 Business Math (CTE Credit)  
080780 Business Math (Math Credit)

## ***ELECTRICAL TECHNOLOGY***

### **460312-ELECTRICAL CONSTRUCTION**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

Involves the study of materials and procedures used in construction wiring. **There is a \$20 fee associated with this course.**

### **460316-CIRCUITS I**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

Introduction to basic theory of DC and AC circuits, including circuit analysis techniques, introductory magnetism, and transformer principles. **There is a \$20 fee associated with this course.**

### **460331-ELECTRICAL MOTOR CONTROLS**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Electrical Construction or Circuits I**

This course addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included. **There is a \$20 fee associated with this course.**

### **460325-ROTATING MACHINERY ELECTRICAL MOTOR CONTROLS**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Electrical Construction or Circuits I**

This course focuses on the construction, operation and maintenance of DC motors and generators and AC motors and alternators. This course addresses the diversity of control devices and applications used in industry today. Safety and electrical lockouts are also included. **There is a \$20 fee associated with this course.**

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

### **Industrial Electrician Assistant CIP 46.0302.02**

This pathway prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems in residential, commercial, and industrial electric-power wiring, DC and AC motors controls, and electrical distribution panels. The pathway includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical inspecting and inspection, and applicable codes and standards. Instruction includes the principles of electronics and electrical systems, wiring, power transmission, safety industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.

#### **BEST PRACTICE COURSES**

##### **Complete (4) four credits:**

- 460312 Electrical Construction 1
- 460316 Circuits I
- 460331 Electrical Motor Controls
- 460325 Rotating Machinery Electrical Motor Controls



## ***ENGINEERING***

**\*All engineering courses meet technology competency standards for Class of 2022 and following**

### **210221-ENGINEERING I (Formerly IED)**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

This course applies the skills, concepts, and principles of engineering. Students explore various technological systems and engineering processes in related career fields. Topics include investigating technological system, design optimization, and problem solving. Students utilize CAD (computer-aided design) and physical and virtual modeling concepts to construct, test, collect, and report data. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$10 lab fee associated with this course.**

### **210222- ENGINEERING II (Formerly POE)**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Engineering I or Introduction to Engineering Design (IED)**

A project and research based course that extends the learning experiences where students focus on mechanical, electrical, fluid and thermal systems allowing in depth exploration in selected disciplines of engineering areas such as manufacturing, power/energy/transportation, robotics, hydraulics, electricity/electronics, communications, construction systems, alternative energy, computer-aided design, and problem solving. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$10 lab fee associated with this course.**

### **210223-CIVIL ENGINEERING & ARCHITECTURE (Formerly CEA)**

**2 Credits (2 Semesters)/Grades 10-12**

**Prerequisites: Engineering I or IED and Engineering II or POE**

This is an introduction to residential and light commercial building construction and design. Students will learn basic sketching, architectural drafting skills with an emphasis on computer-aided drafting. In this class, students will design a structure relevant to today's modern architecture and create models of their designs with various materials and tools. Students will experience and solve many problems in designing or building structures with regard to environment and community impact and limitations from town planning, urban design and landscape architecture to furniture and objects. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$10 lab fee associated with this course.**

**210232-ELECTRICAL/ELECTRONICS ENGINEERING (Formerly DE)**

\*This course is not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisites: Engineering I or IED and Engineering II or POE**

In this course students will gain skills and knowledge through classroom and lab activities in the areas of basic DC and AC circuits, circuit components, codes, testing, electromagnetism and inductance, capacitance, power supplies, power generation and distribution, amplification, digital circuits, and computer fundamentals. Students will develop a basic understanding of the various types of energy and how energy is obtained. Students will learn the safe use of the tools, test instruments, equipment and supplies used in this course plus information on career opportunities in this field. Hands-on and problem-solving activities will expose students to areas of electron theory, Ohm's Law, insulators, conductors, electronic components, oscillators, and electronic fabrication. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$20 lab fee associated with this course.**

**210118-MECHANICAL ENGINEERING (Formerly CIM)**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisites: Engineering I or IED and Engineering II or POE**

This course includes activities and real-world projects with state-of-the-art equipment and trainers. Students explore and study an introduction to engineering, engineering design problem solving, and engineering graphics with a 3-D parametric modeling software. Students prototype a part design and prepare the manufacturing process using a 3-D printer, computer numeric control (CNC) Vertical Mill, computer numeric control (CNC) turning center, a material handling robot and/or plastic molding machine. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$15 lab fee associated with this course.**

**210238-ROBOTICS AUTOMATION AND DESIGN**

\*This course is not offered in the 2022-23 school year

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisites: Recommendation from middle school science teacher or Engineering I (IED)**

This course provides students with the foundation in content and skills associated with robotics and automation, including artificial intelligence, electronics, physics, and principles of engineering. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$35 lab fee associated with this course.**

### **210110 -ENGINEERING CAPSTONE (Formerly EDD)**

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisites: Engineering I (IED) and Engineering II (POE) and one other engineering course**

Engineering scope, content, and professional practices are presented through practical applications in this capstone course. Students in engineering teams apply technology, Kentucky Academic Standards, and skills to solve engineering design problems and create innovative designs. Students research, develop, test and analyze engineering designs using criteria such as design effectiveness, public safety, human factors and ethics. Participation in Kentucky Technology Student Association will greatly enhance instruction. **There is a \$25 lab fee associated with this course.**

### **210330-ENGINEERING CO-OP**

**Credits vary/Grade 12**

**Prerequisite: Must be preparatory in Engineering (3 or more classes completed) and meet all co-op requirements.**

Cooperative education is a paid educational program consisting of in-school instruction combined with the program related on-the-job work experience in a business or industrial establishment. These are planned experiences supervised by the school and the employer to ensure that each phase contributes to the student's Individual Learning Plan (ILP). Refer to the KDE Work-Based Learning Manual for further specifications. Participation in Kentucky Technology Student Association will greatly enhance instruction.

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

## Mechanical Engineering CIP 14.3501.00

This pathway prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of physical systems used in manufacturing and end product systems for specific uses including machine tools, jigs and other manufacturing equipment; stationary power units and appliances; engines; self-propelled vehicles; housings and containers; hydraulic and electric systems for controlling movement; and the integration of computers and remote control with operating systems. Mechanical Engineers design, develop, build, and test mechanical and thermal sensors and devices including tools, engines, and machines.

### BEST PRACTICE COURSES

Choose (1-2) one – two credits from the following:

- 210221 Engineering I
- 210222 Engineering II

Choose (1-2) one – two credits from the following:

- 210238 Robotics Engineering
- 210118 Mechanical Engineering

Choose (1-2) one – two credits from the following:

- 210232 Electrical/Electronic Engineering
- 210117 Advanced Design Applications (**EKU online**)
- 210251 Unmanned Aircraft Systems (**EKU online**)
- 210110 Engineering Capstone
- 210330 Engineering Co-op **OR** 210331 Engineering Internship •
- 331034 Principles of Career and Technical Education
- 110701 AP Computer Science A **OR** 110711 AP Computer Science Principles

## Civil Engineering CIP 14.0801.00

Revised 3/10/2021 Page 46

This pathway generally prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of structural, load-bearing, material moving, transportation, water resource, and material control systems; and environmental safety measures. Civil engineers design, build, supervise, operate, and maintain construction projects and systems in the public and private sector, including roads, buildings, airports, tunnels, dams, bridges, and systems for water supply and sewage treatment.

### BEST PRACTICE COURSES

Choose (1-2) one – two credits from the following:

- 210221 Engineering I
- 210222 Engineering II

Complete (1) one credit:

- 210223 Civil Engineering

Choose (1-2) one – two credits from the following:

- 210117 Advanced Design Applications (EKU online)
- 210251 Unmanned Aircraft Systems (EKU online)
- 210250 Environmental Engineering
- 210110 Engineering Capstone
- 210330 Engineering Co-op **OR** 210331 Engineering Internship ●
- 331034 Principles of Career and Technical Education
- 110701 AP Computer Science A **OR** 110711 AP Computer Science Principles

### **Electrical/Electronics Engineering CIP 14.1001.00**

This pathway prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of electrical, electronic related systems and their components. Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment, such as electric motors, electrical controls, instrumentation, HMI Interfaces, PLCs, industrial controls, and power generation equipment. Electrical engineers design, develop, test, and supervise the manufacturing of electrical equipment, such as electric motors, radar and navigation systems, communications systems, and power generation equipment. Electronics engineers design and develop electronic equipment, including broadcast and communications systems, such as portable music players and Global Positioning System (GPS) devices.

#### **BEST PRACTICE COURSES**

Choose (1-2) one – two credits from the following:

210221 Engineering I  
210222 Engineering II

Complete (1) one credit:

210232 Electrical/Electronics Engineering

Choose (1-2) one – two credits from the following:

210117 Advanced Design Applications (EKU online)  
210251 Unmanned Aircraft Systems (EKU online)  
210110 Engineering Capstone  
210330 Engineering Co-op OR 210331 Engineering Internship  
331034 Principles of Career and Technical Education  
110701 AP Computer Science A OR 110711 AP Computer Science Principles

## ***FAMILY AND CONSUMER SCIENCE***

Each area of Family and Consumer Sciences provides opportunity for students to earn certificates and industry certifications.

**To complete the Early Childhood Education Pathway Students must complete: FACS Essentials, Early Lifespan Development, and Child Services 1, and Child Services 2.**

**Students who complete the pathway are eligible to earn the following certifications:** -Intro to Early Care & Orientation Certification

- Commonwealth Childcare Credential (CCCC)
- Child Development Associate (CDA) \*Independent Study
- Abusive Head Trauma

**In addition, these certifications can articulate to credit at the following**

- institutions:** -Western Kentucky University (3 credit hours)
- Sullivan University (12 credit hours)
  - KCTCS (9 credit hours)
  - College for Technical Education (10 credits)
  - Campbellsville University (6 credit hours)

### **200113-FAMILY AND CONSUMER SCIENCE ESSENTIALS**

**1 Credit (1 Semester)/Grades 9-11**

**\*Meets financial literacy standards for Class of 2024 and following**

**Prerequisite: None**

Introductory Course; meal preparation and nutrition; home environment; child development; consumer education; family living; family health; careers; enabling skills and processes. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$15 fee associated with this course.**

### **200223-EARLY LIFESPAN DEVELOPMENT**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Family & Consumer Science Essentials**

This course addresses the concepts related to understanding the areas and stages of human growth and development, recognizing effects of heredity and environment on human growth and development, meeting the needs of exceptional children, promoting optimum growth and development in the infancy, toddler, and preschool stages. Careers in child/human development are explored. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$15 fee associated with this course.**

### 200226-MIDDLE TO LATE LIFESPAN DEVELOPMENT

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: FACS Essentials**

This course addresses the practical problems related to understanding the types and stages of human growth and development, recognizing effects of heredity and environment on the life stages, meeting the needs of exceptional children, promoting optimum growth and development in the middle childhood, adolescent, and adulthood stages. Careers in child/human development and adult care services are explored. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$15 fee associated with this course.**

### 331020-PRINCIPLES OF TEACHING

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Early Lifespan Dev. or Middle to Late Lifespan Dev., and teacher approval**

This course provides opportunities for students with an interest in teaching to develop skills, strategies, and techniques used for instruction at various grade levels. Instruction addresses the principles and procedures for promoting the physical, emotional, social, and intellectual development of children, adolescents and developmentally appropriate practices in educational settings. Students will gain work experience in classrooms with certified teachers as part of their course work. Other components include the development of a four-year post-secondary plan, salaries and benefits of a teacher, job security, and future projections of the job market. Leadership experiences will be provided through a Career & Technical Student Organization. **There is a \$15 fee associated with this course.**

### 200261-CHILD DEVELOPMENT SERVICES I

**1 Credit (1 Semester)/Grades 11-12**

**Prerequisite: FACS Essentials, Early Lifespan Development and teacher approval**

This course provides training for entry-level positions in day care centers, nurseries, kindergartens, and private homes. Students study careers in child development, child development and guidance, children's health and well-being in group care, value of play, teaching strategies and management, and curriculum development. The subject content is reinforced with work experience in a variety of child-care establishments. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$15 fee associated with this course.**

**\* Transportation to employer/observation site required to be provided by students. This course is highly recommended for any students interested in teaching or coaching as a career choice. Attendance is crucial for this course and will be factored into the course grade.**



## 200262-CHILD DEVELOPMENT SERVICES II

**Up to 5 Credits/Grade 12**

**Prerequisite: Child Development Services I and teacher approval**

Preparation for developing and managing effective child care programs and facilities. Includes instruction in the management of financial operations; selecting and developing facilities; selecting staff and staffing patterns; providing for staff development opportunities; developing a total program for children and working with parents, community organizations and others concerned with children.

Leadership development will be provided through the Family, Career and Community Leaders of America.

**\* Transportation to employer/observation site required to be provided by students. This course is highly recommended for any students interested in teaching or coaching as a career choice. Attendance is crucial for this course and will be including in the course grade.**

### **Early Childhood Education CIP 13.1210.00**

The Early Childhood Education pathway will address a skill set necessary for success in early childhood education so that individuals can teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. This pathway is targeted for individuals preparing for careers related to early childhood education, such as those associated with child care, teaching, community-based children's programs, social services or counseling for children, and after-school programs.

#### **BEST PRACTICE COURSES**

##### **Complete (3) three credits:**

200223 Early Lifespan Development  
200261 Child Development Services I  
200262 Child Development Services II

##### **Choose (1) one credit from the following:**

200113 FACS Essentials AND/OR 200161 FACS Essentials Health (.5 credit)  
331020 Principles of Teaching  
200171 Relationships (.5 or 1 credit)  
200173 Parenting (.5 or 1 credit)  
200210 Co-op: Early Childhood Education  
200201 Internship: Early Childhood Education

## **Fundamentals of Teaching CIP 13.1308.00**

The Fundamentals of Teaching pathway will facilitate employment in early career ladder positions and promote continuing education at the post-secondary level preparing for careers associated with education and training in public and private school programs, elementary, middle, and secondary schools, after-school programs; higher education, nonprofit, and corporate settings.

### **BEST PRACTICE COURSES**

#### **Complete (3) three credits:**

200223 Early Lifespan Development

200226 Middle to Late Lifespan Development (.5 or 1 credit)

331020 Principles of Teaching

#### **Choose (1) one credit from the following:**

200199 FACS Leaders at Work

200113 FACS Essentials

200171 Relationships (.5 or 1 credit)

200292 Internship: Fundamentals of Teaching

200291 Co-op: Fundamentals of Teaching

## 200441-FOODS AND NUTRITION

### 1 Credit (1 Semester)/Grades 9-12

This course is designed to assist students in making critical decisions about food, which contributes to health and well-being. Laboratory instruction is included as an application process. Practical problems addressed relate to attitudes toward food, nutrition facts, special health concerns and diets, management of food resources, preparation skills, food safety, sanitation and careers in nutrition and food service. **There is a \$20 fee associated with this course.** Leadership development will be provided through the Family, Career and Community Leaders of America.

## 200442- ADVANCED FOODS AND NUTRITION

### 1 Credit (1 Semester)/Grades 10-12

#### Prerequisite: Successfully complete Foods & Nutrition

This course is designed to assist students in principles related to food preparation. Specific content addressed will include planning, serving, food presentation, special diets, nutrition for the lifespan, serving, and food planning for entertainment services. An emphasis on careers related to food service and nutrition (i.e. catering, dietician and other culinary careers). Lab instruction emphasizes the application process. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$20 fee associated with this course.** Leadership development will be provided through the Family, Career and Community Leaders of America.

## 200411-CULINARY I

### 1 Credit (1 Semester) /Grades 11-12

#### Prerequisite: Successfully complete Foods & Nutrition

This advanced course allows students to increase competencies in a variety of food preparation techniques. Emphasis will be placed on food presentation, garnishing, menu planning and the skills necessary to prepare for a career in the culinary arts. Leadership development will be provided through the Family, Career and Community Leaders of America. **There is a \$30 fee associated with this course.**

## 200412-CULINARY II

### 2 Credits (Spring Semester, 2 Periods)/Grades 11-12

#### Prerequisite: Successfully complete Culinary I and Industry Certification

In this course students resume progress in pursuing competencies in food production and services. Orientation to the food service industry and development of food preparation skills are reinforced. Food service management functions are introduced. More in-depth information is provided and higher levels of skills are taught. Time is provided for work based learning opportunities. Leadership development will be provided through the Family, Career and Community Leaders of America. Food preparation; bakery operation; dinner catering; model restaurant; laws and regulations; unions; safety, sanitation; receive, store and issue food are addressed. **There is a \$30 fee associated with this course.**

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

### **Culinary and Food Services CIP 12.0500.00**

The Culinary and Food Service Pathway addresses a skill set necessary for success in the culinary industry. The courses in this pathway will help students develop skills in early career ladder positions and promote continuing education at the post-secondary level preparing for careers associated with restaurants, institutional food service, hospitality, and catering, as well as food and beverage operations.

#### **BEST PRACTICE COURSES**

**Choose (3) three credits:**

200441 Foods and Nutrition  
200411 Culinary Arts I  
200412 Culinary Arts II

**Choose (1) one credit from the following:**

200113 FCS Essentials AND/OR 200161 FCS Essentials Health (.5 credit)  
200442 Advanced Foods and Nutrition (.5 or 1 credit)  
200409 Co-op: Culinary Arts  
200478 Internship: Culinary Arts

## ***FOREIGN LANGUAGE***

### **161108-SPANISH I**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

High School course. Introductory course. It engages students in the target language with developmentally appropriate activities to acquire the language necessary to communicate (interpret, exchange, and present information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas). Cultural aspects are typically included in order to understand the relationship among the products, practices and perspectives of the target language's culture. In addition, students develop insight into their own language and culture.

### **161109-SPANISH II**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Successful completion of Spanish I**

High School course. Intermediate course. It engages students in the target language with developmentally appropriate activities to acquire the language necessary to communicate and the skills necessary to perform interpersonal, interpretive and presentational communicative tasks; interpret, exchange, and present, information, concepts and ideas both within the classroom and beyond on a variety of topics including connections to other subject areas; and understand the relationship among the products, practices and perspectives of other cultures. In addition, students develop insight into their own language and culture.

## ***HEALTH SCIENCES***

The Health Science Program provides students with orientation and exploration of a variety of health occupations in a medical field of study. Students can obtain an industry certification as a Certified Nursing Assistant as a capstone course. Courses are sequenced to provide continuous student progress toward achievement of a career major goal in either an Allied Health, Pre-Pharmacy, or Pre-Nursing major. Many of the courses are available as dual credit so the student can obtain college credits while taking these elective courses if they complete with a “C” or better.

This program assists the student in developing essential cognitive, affective, and psychomotor skills and the flexibility to design an individual course of study focused on specific learning goals. Students are taught to use critical thinking to solve real world problems that are experienced in this career area.

The program is designed for students who desire entry-level training and/or plan to pursue a career in a Medical Field of Study. Students can obtain the skills to pursue immediate employment in a healthcare field such as a hospital or other health care facilities.

Students may be exposed to a variety of opportunities such as various guest speakers, visiting health care settings such as a hospital, job shadowing, field trip experiences to see Nursing and Allied Health Programs, attending the Health Career Showcase, and other unique experiences such as being selected to go see a live surgery with other students in the Greater Northern KY Region.

### **170111-PRINCIPLES OF HEALTH SCIENCE (AHS 105)**

**1 Credit (1 Semester)/Grades 9-11**

**Prerequisite: None**

Orientation and foundation for occupations and functions across the health care cluster. Includes broad health care core standards which specify the knowledge and skills that the vast majority of healthcare workers should have. Prerequisite to additional courses in the Health Science Program. **There is a \$10 lab fee associated with this course.**

### **170167-BODY STRUCTURES AND FUNCTIONS**

**1 Credit (1 Semester)/Grade 10-12**

**Prerequisite: Principles of Health Sciences, Medical Terminology and Emergency Procedures preferred, but not required**

This course is designed to provide knowledge of the structure and function of the human body with an emphasis on normalcy. The interactions of all body systems in maintaining homeostasis will promote an understanding of the basic human needs necessary for health maintenance. Academic knowledge from life science core content as it relates to the human body (including anatomy and physiology) will be included. Laboratory activities should be a part of the course when appropriate. **There is a \$50 lab fee associated with this course.**

**170131-MEDICAL TERMINOLOGY (AHS 120)  
170141-EMERGENCY PROCEDURES (KHP 100 & CPR 100)**

**1/2 Credit Each (1 Semester)/Grades 11-12**

**\*\*Both courses are taken simultaneously.**

**Prerequisites: Principles of Health Science**

An intense study of the medical language used in all health career major areas. Pronunciation, spelling and application rules of medical terminology are included.

This course is intended to combine all existing courses in the Health Science Cluster to include foundational emergency skills for all Health Science Career Pathway students. This course will include certifications in: Cardiopulmonary Resuscitation for the Healthcare Provider; AED; bloodborne pathogen; first aid; and emergency care as outlined by an approved first aid/CPR/Bloodborne Pathogen certifying agency as put forth by the American Heart Association, National Safety Council or American Red Cross. **There is a \$25 lab fee associated with this course.**

**170631-MEDICAID NURSE AIDE**

**2 Credits(Fall Semester/2 Class Periods)/Grade 12 only**

**Prerequisite:** Completion of the following courses with a "C" or better: Principles of Health Sciences, Medical Terminology, and Emergency Procedures; may require an application

An instructional program that prepares individuals to perform routine nursing-related services to patients in hospitals or long-term care facilities, under the training and supervision of an approved registered nurse or licensed practical nurse. State Registry is available upon successful completion of state written and performance examination. Prior to offering this course, the instructor and health science program must be approved for meeting state requirements set by the Cabinet for Health and Family Services. Industry Certification: State Registered Nurse Aide **There is an \$85 lab fee associated with this course.**

\*Students must complete all requirements to attend the required clinical rotation at a health care facility. Students can earn 3 college credit hours from Gateway Community and Technical College upon successful completion of this course and will have an opportunity to earn a State Certification as a SRNA. \*\*This course is a double-period, one-semester, Fall semester only.



**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

### **Pre-Nursing CIP 51.2699.01**

This pathway prepares individuals for admission to a professional program in nursing. This pathway focuses on caring for residents in a long-term care facility.

#### **BEST PRACTICE COURSES**

##### **Complete (3) three credits:**

170111 Principles of Health Science

170141 Emergency Procedures (.5 credit) AND 170131 Medical Terminology (.5 or 1 credit)

170631 Medicaid Nurse Aide

##### **Choose (1) one credit from the following:**

170167 Body Structures and Functions OR 302631 Anatomy (Science course) 170169 Medical Math (.5 or 1 credit)

170601 Co-op (Nursing)

170550 Internship: Allied Health

## ***INFORMATION TECHNOLOGY***

**\*All IT courses meet technology competency standards for Class of 2022 and following**

### **110201- INTRO TO PROGRAMMING (GAME PROGRAMMING) (C# Language/MonoGame)**

**1 Credit (1 semester)/Grade 9-12**

**Prerequisite: None**

Focuses on the general writing and implementation of generic and atomized programs to drive operating systems. Includes software design, languages, and program writing, trouble-shooting, etc. **There is a \$20 lab fee associated with this course.**

### **110110- COMPUTER LITERACY**

**1 Credit (1 semester)/Grade 9-12**

**Prerequisite: None**

This course provides an introduction to the computer and the convergence of technology as used in today's global environment. Introduces topics including computer hardware and software, file management, the Internet, e-mail, the social web, green computing, security and computer ethics. Instruction presents basic use of application, programming, systems, and utility software. Students spend at least 20 hours programming and applying learned concepts through programming. Programming is defined, by the K-12 CS Framework, as the craft of analyzing problems and designing, writing, testing, and maintaining programs to solve them.

### **110226- PROJECT-BASED PROGRAMMING**

**1 Credit (1 semester)/Grade 10-12**

**Prerequisite: Intro to Programming**

This project-based learning course engages those students with an entrepreneurial spirit that are interested in programming and in finding solutions to existing problems through the creation of applications. In this course, students will create projects that require computer science fundamentals and extensive research to successful complete. Students will work either solo or in a team to execute a project decided upon by the student(s). Students must learn and demonstrate proficiency in time management, scope, research, computer science, and teamwork to be successful in this course. Finally, students will engage in leadership skills by being held accountable for completion of their tasks or project. The teacher will act more as facilitator in this course and is highly encouraged to create his/her own project to demonstrate teacher "buy in" to students. Students spend at least 20 hours programming and applying learned concepts through programming. Programming is defined, by the K-12 CS Framework, as the craft of analyzing problems and designing, writing, testing, and maintaining programs to solve them.

### **110801-WEB PAGE DEVELOPMENT**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite:**

Introduces web page design through the use of HTML and CSS. Uses text and/or web editors to create web documents with various formats and page layouts, multimedia, tables and forms. Emphasizes W3C web design and accessibility standards. **There is a \$20 lab fee associated with this course.**

### **110804- Web Site Design and Production**

**1 Credit (1 semester)/Grade 10-12**

**Prerequisite: Web Page Development**

This course introduces web site production processes with particular emphasis on design involving layout, navigation, interactivity, and using web production software. Students spend at least 20 hours of programming and applying learned concepts through programming.

### **110711 – AP COMPUTER SCIENCE PRINCIPLES**

**1 Credit (1 Semester)/Grade 9-12**

**Prerequisite: Computational Thinking or Intro to Programming**

The AP Computer Science Principles course is designed to be equivalent to a first semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems, and will discuss and write about the impacts these solutions could have on their community, society, and the world. **College credit is earned with a qualifying score on an AP exam. There is a fee associated with the AP exam. \*This course will receive weighted credit at GCHS**

### **110251-COMPUTATIONAL THINKING**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

Students analyze the structure of the world wide web, apply basic principles of web documents and HTML, and develop multimedia web pages. Course content will include the understanding of hypertext and web structures. Equipment such as scanners, digital and video cameras and sound recording devices will be utilized through hands-on instruction. Promotes understanding of computer programming and logic by teaching students to "think like a computer". Covers skills needed to develop and design language-independent solutions to solve computer related problems. Covers developmental and design basics including use of variables, control and data structures, and principles of command-line and object-oriented languages. **There is a \$20 lab fee associated with this course.**

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area. Applications can be obtained from the program teacher or the Guidance Office and are to be returned to Mr. Butler after completion, including all required signatures, by deadlines provided. Students must meet all criteria as outlined in the agreement. Students will be required to maintain good attendance and submit biweekly timesheets.**

## **Web Development/Administration CIP 11.0801.01**

The Web Development/Administration pathway involves creating, designing, and producing interactive multimedia products and services. This will include development of digitally generated or computer-enhanced media, and the adherence to web standards, as used in business, training, communications and marketing. Organizations of all types and sizes use digital media, web pages, and websites to communicate with existing and potential customers, to track transactions, and to collaborate with colleagues. This pathway will prepare students to enter the workforce ready to participate as leaders in a broad range of careers and further their education.

### **BEST PRACTICE COURSES**

#### **Complete (3) three credits:**

110101 Computer Hardware/Software  
110110 Computer Literacy OR 060112 Digital Literacy  
110801 Web Page Development  
110804 Web Site Design and Production

#### **Choose (1) one credit from the following:**

110213 Design for the Internet  
110917 Internet Technologies  
110251 Computational Thinking  
110918 Information Technology Co-Op **OR** 110919 Information Technology Internship

## **Computer Programming CIP 11.0201.01**

The Computer Programming pathway courses will prepare students to design and create apps, as well as troubleshoot the latest programming languages used in industry. Upon completion of this career pathway, students will be prepared for an entry level position in the IT field or continue their education in computer programming.

### **BEST PRACTICE COURSES**

Complete (2) two credits:

110101 IT Essentials  
110110 Computer Literacy OR 060112 Digital Literacy  
110251 Computational Thinking

Choose (2) two credits for the following:

110201 Introduction to Game Programming  
110205 JAVA Programming I  
110206 JAVA Programming II  
110220 Object-Oriented Programming I (Visual Basics I)  
110221 Object-Oriented Programming II (Visual Basics II)  
110226 Project-Based Programming  
110711 AP Computer Science Principles  
110809 JavaScript  
110821 App Development with Swift  
110918 Information Technology Co-Op OR 110919 Information  
Technology Internship

## ***JROTC***

### **(Junior Reserve Officer Training Corp)**

**2 Credits (2 Semesters) per Level**

**580240-LET-1.0 & 1.5\*/Grades 9-12 Prerequisite: None**

**580241-LET-2.0 & 2.5/Grades 10-12 Prerequisite: Minimum of one semester of LET-1**

**580242-LET-3.0 & 3.5\*\*/Grades 11-12 Prerequisite: LET-1 and 2 and Consent of Senior Army Instructor**

**580243-LET-4.0 & 4.5\*\*/Grade 12 Prerequisite: LET-1, 2, and 3 and Consent of Senior Army Instructor**

This pathway introduces students to the theory and practice of military science, life in the U.S. Army and prepares them for cadet status (Junior ROTC or JROTC) or for service as commissioned reserve or active duty officers (Senior AROTC or ROTC). Programs are offered as adjuncts to regular high school instructional programs. Co-curricular activities such as color guard/drill team club are also non-required extensions of the course.

**\*LET 1.0/1.5 Cadets who successfully complete both semesters of LET 1 and receive a passing grade on the comprehensive health exam will complete the requirements for the high school Health/PE credit.**

## ***MEDIA***

### **902010-TECHNOLOGY COMPETENCY (Today's Google World)**

**1 Credit (1 Semester)/Grades 9-12**

**\*Meets technology competency standards for Class of 2022 and following**

**Prerequisite: None**

This course is designed to increase technology competency through use of basic computer programs (i.e. word processing, spreadsheets, Power Point, internet, etc.)

### **239141-YEARBOOK PRODUCTION**

**2 Credits (2 Semesters)/Grades 9-12**

**Prerequisite: Application w/ teacher recommendation**

Content for this course may vary. Possible topics include yearbook production, publication, format, layout, photographs, and financial management.



## ***VISUAL AND PERFORMING ARTS***

**\*Students may choose one of any of the courses in this section to fulfill the visual/performing arts requirement for graduation.**

### **500111-HISTORY/APPRECIATION OF VISUAL/PERFORMING ARTS**

**1 Credit (1 Semester)/Grade 10-12**

**Prerequisite: None**

Students are introduced to a survey of significant works, artists, and movements that have shaped the arts world and have influenced or reflected various periods of history in the arts disciplines of dance, music, theatre and visual art. Course content emphasizes the sequential evolution of art forms, techniques, symbols, and themes within those disciplines. The course covers the connections of the arts to cultural, social, political, and historical events throughout the world. Critical analysis of works from the disciplines, as they communicate and express the history, needs, and ideals of society and individuals is included. The course provides for students to experience creating, performing/presenting/producing, responding and connecting their own works as well as the works of others. This is not a performance class.

### **500921-MUSIC ENSEMBLE - PERCUSSION STUDIES**

**2 Credits (2 Semesters)/Grades 9-12**

**Prerequisites: Open to any GCHS student who auditions and interviews with Mr. Hermens in the spring and demonstrates the commitment, discipline, and basic musical understanding required to be a member of the Grant County Band. Middle school band experience is not required. Students who have been a member of the middle school band are not required to audition or interview.**

Students study and perform a variety of traditional styles such as traditional chamber music, and contemporary or popular styles, such as jazz and rock, while also cultivating students' technique on instruments appropriate to the style(s) performed -- brass, woodwind, string, percussion instruments, and/or electronic. Courses typically range in size from 2 to 20 performers. Coursework provides students with opportunities for growth through rehearsal and performance, improvisation, or creating and performing their own compositions and also responding to music. These courses teach students the appropriate care, handling, and maintenance of musical instruments. Courses are offered on multiple levels to accommodate proficiency.

### **500913-GENERAL BAND**

**2 Credits (2 Semesters)/Grades 9-12**

**Prerequisite: Completion of middle school band OR audition with high school band director**

Courses in General Band are designed to promote students' technique for playing Brass, Woodwind, and Percussion instruments and cover a variety of band literature styles (e.g., Concert, Marching, Orchestral, and Modern) primarily for performances and also include experiences in creating and responding to music. These courses teach students the appropriate care, handling, and maintenance of musical instruments. Band courses may be offered on multiple skill levels to accommodate student proficiency.

### **500917-SYMPHONIC BAND**

**2 Credits (2 Semesters)/Grades 10-12**

**Prerequisite: Successful completion of middle school band OR audition with high school band director**

Courses in Symphonic Band are designed to promote students' playing technique for brass, woodwind, and percussion instruments, and cover a variety of music styles. Literature for Symphonic Band courses is usually more advanced and incorporates orchestral literature transcribed for band. These courses emphasize rehearsal and performance experiences and also include experiences in creating and responding to music. These courses teach students the appropriate care, handling, and maintenance of musical instruments.

### **500925-CONCERT CHOIR**

**2 Credits (2 Semesters)/Grades 9-12**

**Prerequisite: None**

Students develop vocal skills in the context of a large choral ensemble as a means to study and perform a variety of styles. These courses are designed to develop students' vocal techniques and their ability to sing parts and include experiences in creating and responding to music. Courses are offered on multiple levels to accommodate proficiency.

### **500926- CHAMBER SINGERS**

\*not available for the 22-23 school year

**2 Credits (2 Semesters)/Grades 9-12**

**Prerequisite: Audition only**

Students refine vocal techniques and the ability to sing parts in small ensembles. Students develop vocal techniques focusing primarily on musical literature styles such as chamber, madrigal, traditional jazz, jazz improvisation, popular, rock, barber shop, gospel, show choir and cultural. These ensembles may include both instrumental and vocal music such as a small vocal ensemble with instrumental accompaniment. Course goals include the development of solo singing ability and emphasize one or several ensemble literature styles. These ensembles include experiences in creating and responding to music. Courses are offered on multiple levels to accommodate proficiency.

### **500928-MUSIC THEORY**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: Student must be able to read music notation**

Music Theory courses provide students with an understanding of the fundamentals of music and include one or more of the following topics: melody, harmony, composition, arrangement, analysis, aural development, and sight reading.

**500912-MUSIC HISTORY: ROCK & ROLL (Formerly History of Rock & Roll)**

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

Students develop an understanding of music and its importance in relation to the human experience. Learning experiences include guided listening, analysis, discussion and hands on experimentation including informal performance, improvisation, or composition focused on how various styles of music apply musical elements to create expressive or aesthetic impact.

**C500912-MUSIC HISTORY: AMERICA'S MUSIC, HILLBILLY, COUNTRY & WESTERN,  
TODAY'S COUNTRY MUSIC**

\*not available for the 2022-23 school year

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

Students develop an understanding of music and its importance in relation to the human experience. Learning experiences include guided listening, analysis, discussion and hands on experimentation including informal performance, improvisation, or composition focused on how various styles of music apply musical elements to create expressive or aesthetic impact.

**500923-GUITAR**

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

Students explore the fundamentals of music and guitar-playing techniques, such as strumming and chords. These courses may also include more advanced guitar-playing techniques. Coursework may also apply to Banjo, Bass, Dulcimer, Mandolin, Ukulele and other plucked string instruments. Formal and informal performances are included as part of the instructional program as well as experiences

in creating and responding to music. These courses teach students the appropriate care, handling, and maintenance of musical instruments. Courses are offered on multiple levels to accommodate proficiency. **There is a \$10 fee associated with this course.**

No previous experience is necessary. Classroom guitars are available for students who do not have their own acoustic guitars.

### 500533-INTRODUCTION TO MUSICAL THEATRE

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

Students experience various aspects of musical theater, including auditioning, singing, acting, and dancing. They review the history and evolution of musical theater, its literature and artists, and styles of composition and vocal presentation. Students work collaboratively on performances, including solo, duet, and ensemble work. These courses may also provide a discussion of career and post-secondary placement opportunities.

### 500710-VISUAL ARTS – FUNDAMENTALS (Formerly Foundations of Visual

**Arts) 1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: None**

Students are introduced to the basic fundamentals of artistic expression. The course includes experiences in drawing, painting, two-and three-dimensional design, sculpture, and other art forms. The course emphasizes observations, interpretation of the visual environment, visual communication, imagination and symbolism, and an introduction to various visual arts techniques and media. The focus of the course is on application of the fundamental processes of artistic expression and application of the concepts and approaches in the symbolic aspects of art and design to two- and three-dimensional problems so that they demonstrate a range of abilities and versatility with technique, problem solving, and ideation. A study of historical and contemporary art and artists from a worldwide perspective, and instruction and practice in peer review through the critique process, presentation or their, responding to art and connecting their art to the world around them are included. . **\*\*There is a \$20 fee associated with this course.**

### P500712-PAINTING

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Foundations of Visual Art recommended, but not required**

Students focus on the blend and relationships that occur between drawing and painting. Attention is given to two-dimensional work and utilizes one or more mediums, such as pen-and-ink, pencil, chalk, watercolor, tempera, oils, and acrylics. Students extend and refine knowledge in the creative process

to visually communicate personal intent. Advanced students extend and refine knowledge in the creative process. They are encouraged to develop their own artistic styles. Students focus on making meaning by investigating and reflecting their awareness of their perceptions, knowledge, and experiences of life. The course may emphasize either drawing or painting or combine both.

**\*\*There is a \$20 fee associated with this course.**

## D500712-DRAWING

**1 Credit (1 Semester)/Grades 9-12**

**Prerequisite: Foundations of Visual Art recommended, but not required**

Students focus on the blend and relationships that occur between drawing and painting. Attention is given to two-dimensional work and utilizes one or more mediums, such as pen-and-ink, pencil, chalk, watercolor, tempera, oils, and acrylics. Students extend and refine knowledge in the creative process

to visually communicate personal intent. Advanced students extend and refine knowledge in the creative process. They are encouraged to develop their own artistic styles. Students focus on making meaning by investigating and reflecting their awareness of their perceptions, knowledge, and experiences of life. The course may emphasize either drawing or painting or combine both.

**There is a \$20 fee associated with this course.**

## 500212-CERAMICS I

**1Credit (1 Semester)/Grades 10-12**

**Prerequisites: None**

Ceramics/Pottery courses engage students in learning experiences that encompasses the historical and cultural context of ceramics, critiquing their own work and the work of others, aesthetic inquiry, and creative production. They develop knowledge of ceramic techniques and processes with an emphasis on creative design and craftsmanship. Experience includes, but is not limited to, clay modeling, hand building, coil building, casting and throwing on the potter's wheel. Students develop a working knowledge of kiln firing and glazing techniques. Students balance experimentation and safety, freedom and responsibility while developing and creating artworks.

**There is a \$20 fee associated with this course.**

## 500713-SCULPTURE (Formerly 3-D Art)

**1 Credit (1 Semester)/Grades 10-12**

**Prerequisite: None**

Sculpture courses promote creative expression through three-dimensional works. Students explore representational and abstract sculpture through subtractive (carving), additive (modeling), and assemblage techniques in one or more media. They produce representational and abstract sculptures that communicate personal ideas and messages through the application of the fundamentals of artistic expression while incorporating elements of art and principles of design. A study of historical and contemporary sculpture and sculptors from a worldwide perspective, and instruction and practice in the critique process are addressed. **There is a \$20 fee associated with this course.**

## ***WELDING TECHNOLOGY***

### **480501-CUTTING PROCESSES**

**1 Credit (1 Semester)/Grade 9**

**Prerequisite: None**

A working knowledge of various cutting processes used by the welding industry. Will include, but is not limited to, safety, theory of operation, setup and operating techniques, troubleshooting, and making minor equipment repairs, terms and definitions, identification, evaluation, repair and prevention of discontinuities of cut surfaces. Includes oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting process. S.E.N.S.E. certificate of completion will be given in this course of Cutting Process once student has completed all cuts. **There is a \$20 lab fee associated with this course.**

### **480521-SHIELDED METAL ARC WELDING**

**1 Credit (One Semester)/Grades 10-12**

**Prerequisite: Cutting Processes**

This course provides experiences in which students acquire the manipulative skills to do groove welds in all positions with backing. Students will receive S.E.N.S.E. Certificate of completion in this course over 2G and 3G guided Bend Test. Student must complete Oxy-Fuel Cutting Process to receive this certificate. **There is a \$20 lab fee associated with this course.**

### **480522-GAS METAL ARC WELDING**

**2 Credits (Two Semesters)/Grades 11-12**

**Prerequisite: Shielded Metal Arc Welding (SMAW)**

This course is designed to teach students the identification, inspection, and maintenance of GMAW machines; identification, selection and storage of GMAW electrodes; principles of GMAW; and the effects of variables on the GMAW process. Theory and applications of related processes such as Short circuit, FCAW, Spray and metallurgy are also included. Students will receive S.E.N.S.E. Certificate of completion in this course over GMAW Short circuit, FCAW and Spray Test. Student must complete Oxy-Fuel Cutting Process to receive this certificate. **There is a \$20 lab fee associated with this course.**

## **480525-GAS TUNGSTEN ARC WELDING**

**2 Credits (Two Semesters)/Grades 11-12**

**Prerequisite: Gas Metal Arc Welding (GMAW)**

This course is designed to teach students the identification, inspection, and maintenance of GTAW machines; identification, selection and storage of GTAW electrodes; principles of GTAW; the effects of variables on the GTAW process; and metallurgy. This course also teaches the theory and application of Plasma Arc Cutting. The lab portion of this course teaches the necessary manipulative skills needed to apply the Gas Tungsten Arc on various joint designs on plate with both ferrous and non-ferrous metals. Plasma Arc cutting is also included. Students will receive S.E.N.S.E. Certificate of completion in this course over GTAW of carbon steel, stainless steel and aluminum Test. Student must complete Oxy-Fuel Cutting Process to receive this certificate. **There is a \$20 lab fee associated with this course.**

**\*\*Co-operative education opportunities are available to 12<sup>th</sup> grade students in each Career and Technical Education area.**

**Applications can be obtained from the program teacher and returned to Mr. Butler. Students must meet College or Career Readiness requirements to be eligible to co-op. Students will be required to maintain good attendance and submit biweekly timesheets.**

### **Welder-Entry Level CIP 48.0508.01**

An entry level welder demonstrates the ability to assist lead welders in the fabrication of steel and metal structures. Students must be adept at performing basic welding functions and calculating dimensions as well as operating power equipment, grinders and other related tools. Students must be proficient in reading and interpreting basic blueprints and following work procedure specifications (WPS).

#### **BEST PRACTICE COURSES**

**Choose (4) four credits from the following:**

480505 Blueprint Reading for Welding (.5 – 1 credit) OR 499920 Basic Blueprint Reading (.5 credit) AND 480524 Basic Welding (.5 – 1 credit)  
480523 Oxy-fuel Systems (.5 – 1 credit) OR 480501 Cutting Processes (.5 – 1 credit) 480521 Shielded Metal Arc Welding (SMAW)  
480522 Gas Metal Arc Welding (.5 – 1 credit)  
480533 GMAW Groove Lab  
480528 SMAW Groove Welds with Backing Lab  
480535 SMAW Open Groove Lab  
480525 Gas Tungsten Arc Welding (.5 – 1 credit)  
480538 Gas Tungsten Pipe Welding Pipe Lab A  
480530 GTAW Groove Lab  
480540 GMAW Pipe Lab A  
480534 GMAW Aluminum Lab (.5 credit)  
480536 Shielded Metal Arc Welding Pipe Lab A  
480541 Co-op I (Welding) OR 480544 Internship (Welding)



## SERVICE LEARNING

All students who enroll in service learning will be permitted to participate in only one class period per semester. Students will agree to sign and abide by a statement of confidentiality and will commit to attend a training session to be held on the first day for freshmen in August. Service learners will receive one credit per course period served and a grade of Pass/Fail.

Potential Service Learners must complete an application. Attendance and behavior records will be reviewed. Students who are truant or who have serious offenses will not be considered.

### 906010-Peer Tutoring

#### 1-2 Credits/Grade 12

This course is designed to train students in effective peer tutoring skills and provide experiences in peer tutoring. Peer tutors will assist students in regular and special education classrooms with a variety of activities that include, but are not limited to, the following: note taking, reading, completing assignments, remaining on task and participating in classroom activities. Peer tutors are expected to serve as positive role models and to be engaged in the classroom at all times.

- If peer tutoring in Math or English, the student must have met the ACT benchmark in that area and must have previously achieved an A or B in the course in which he/she is peer tutoring.
- If peer tutoring in subjects outside of Math or English, the student must have received an A or B in the course.
- Elective teachers may have peer tutors in introductory level courses only.
- Service Learning information above applies

### 909020-School Ambassador (Office/Teacher Aide)

#### 1-2 Credits/Grade 12

**Prerequisite: Cumulative GPA of 2.5 or higher; no class failures for previous year; see Service Learning above**

Student ambassadors are interested in providing service to school operations through office-type positions (main office, guidance, YSC, media center). Ambassadors will participate in a variety of activities that include, but are not limited to, the following: interacting with students and parents, answering phones, orienting new students to the building, and supporting school staff in daily building operations. Student ambassadors are expected to serve with positivity and professionalism at all times. This course must be assigned to a certified individual.