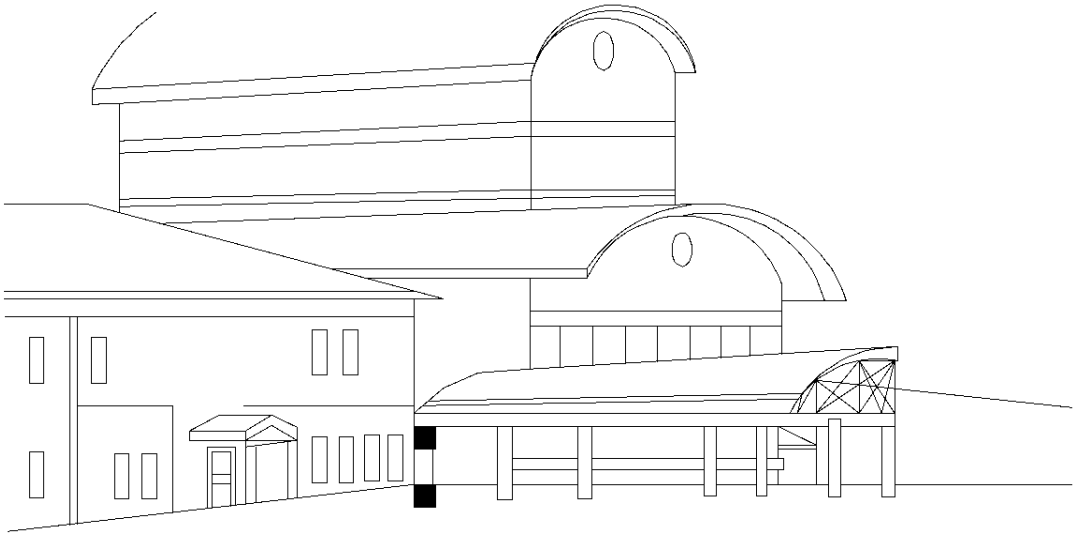
Revised 12/2023

John Hardin High School

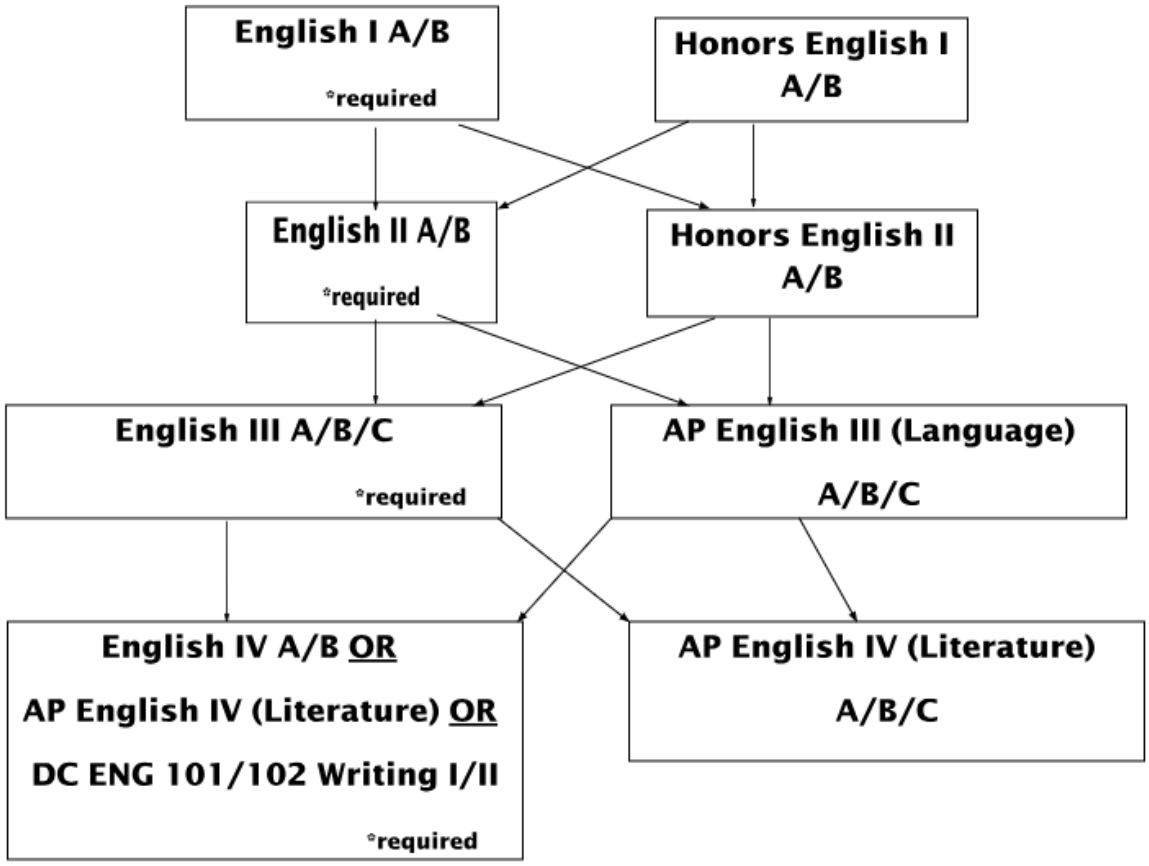


Curriculum Guide

JOHN HARDIN HIGH SCHOOL CURRICULUM

Regular Studies Curriculum Diploma	**Academic Studies Curriculum Diploma** **(Minimum 3.0 overall GPA required)**
English I, II, III and IV **4.5 Credits** **Students must take an English class each year of high school**	**English I, II, III, and IV** **4.5 Credits** **Students must take an English class each year of high school**
Mathematics **4 Credits** **(Algebra I, Geometry, Math Concepts and Algebra II are required)** **Students must take a math class each year of high school**	**Mathematics** **4 Credits** **(Algebra I, Geometry, Math Concepts and Algebra II are required)** **Students must take a math class each year of high school**
Science **3 Credits** **(Integrated Science, Biology, Chemistry and Earth Space Science or Chemistry II or Physics I)**	**Science** **3 Credits** **(Integrated Science, Biology, Chemistry and Earth Space Science or Chemistry II or Physics I)**
Social Studies **3 Credits** **(World History, Civics and US History)**	**Social Studies** **3 Credits** **(World History, Civics and US History)**
	Foreign Language **2 Credits** **(Of the same language)**
Health Education **.5 Credit**	**Health Education** **.5 Credit**
Physical Education **.5 Credit** **(Or 1.5 credits of JROTC)**	**Physical Education** **.5 Credit** **(Or 1.5 credits of JROTC)**
Arts and Humanities **1 Credit** **(any combination of Band, Art, Chorus, Guitar, Keyboard, or Drama)**	**Arts and Humanities** **1 Credit** **(any combination of Band, Art, Chorus, Guitar, Keyboard, or Drama)**
Additional Electives **9.5 Credits**	**Additional Electives** **7.5 Credits**
TOTAL **26 Credits**	**TOTAL** **26 Credits**

English Course Sequences

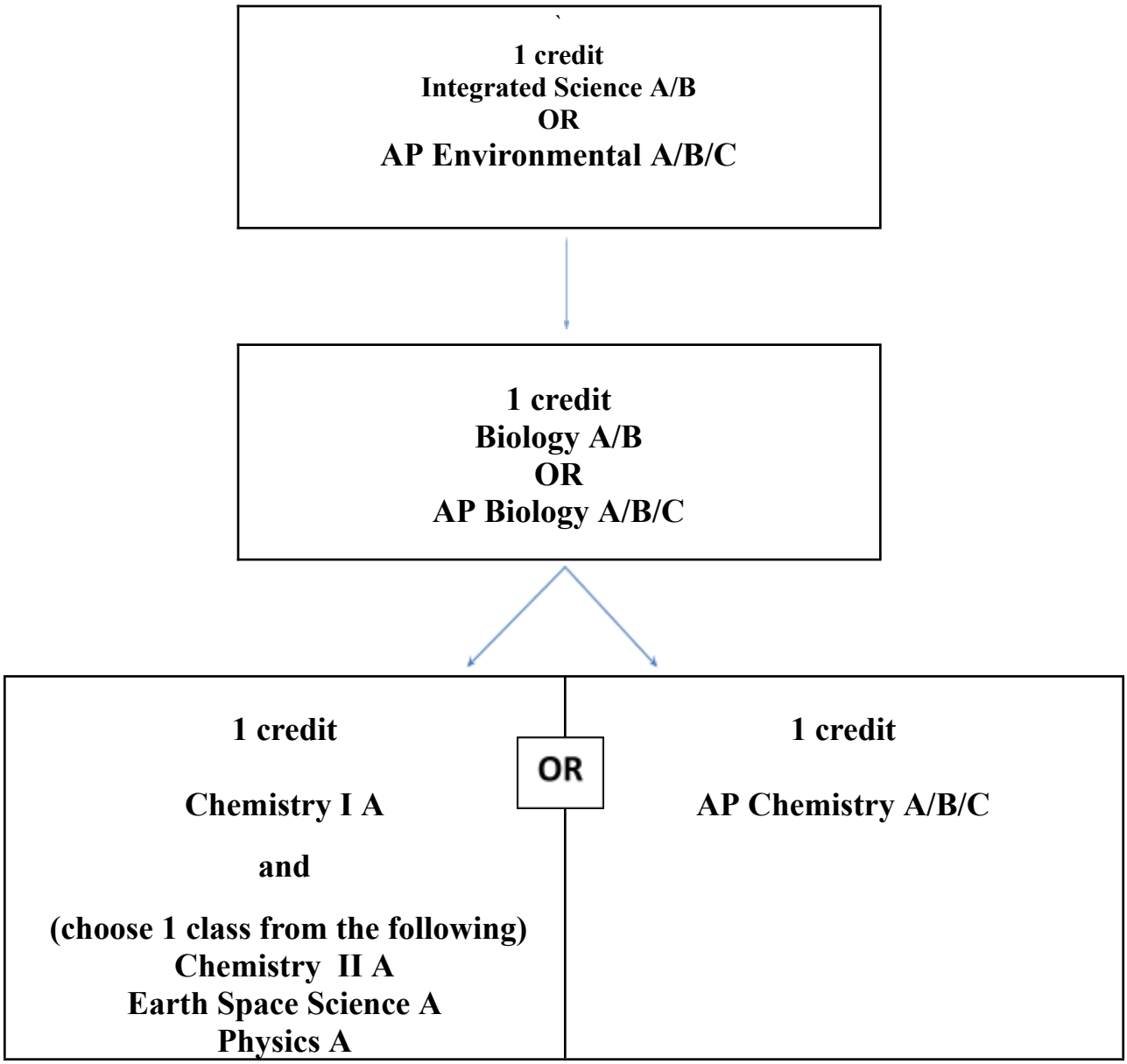


Mathematics Course Sequences

9th	**Algebra 1** **(3 Trimesters)**	**Honors Algebra 1** **(3 Trimesters)**	**Honors Algebra 1 - Part C** **(1 Trimester)** **Honors Geometry** **(2 Trimesters)**
10th	**Geometry** **(2 Trimesters)** **Math Concepts** **(1 Trimester)**	**Honors Geometry** **(2 Trimesters)**	**Honors Algebra 2** **(3 Trimesters)**
11th	**Algebra 2** **(2 Trimesters)**	**Honors Algebra 2** **(3 Trimesters)**	**Choose One:** **Pre-Calculus** **(3 Trimesters)** **MTH 111 and MTH 112** **(1 Trimester Each)** **AP Statistics** **(3 Trimesters)**
12th	**Choose One:** **Personal Finance** **(1 Trimester)** **Pre-Calculus** **(3 Trimesters)** **MTH 111 and MTH 112** **(1 Trimester Each)**	**Choose One:** **Personal Finance** **(1 Trimester)** **Pre-Calculus** **(3 Trimesters)** **MTH 111 and MTH 112** **(1 Trimester Each)** **AP Statistics** **(3 Trimesters)**	**Choose One:** **AP Calculus AB** **(3 Trimesters)** **AP Statistics** **(3 Trimesters)** _____ **AP Calculus BC** **(3 Trimesters - Must take AP Calculus AB)**

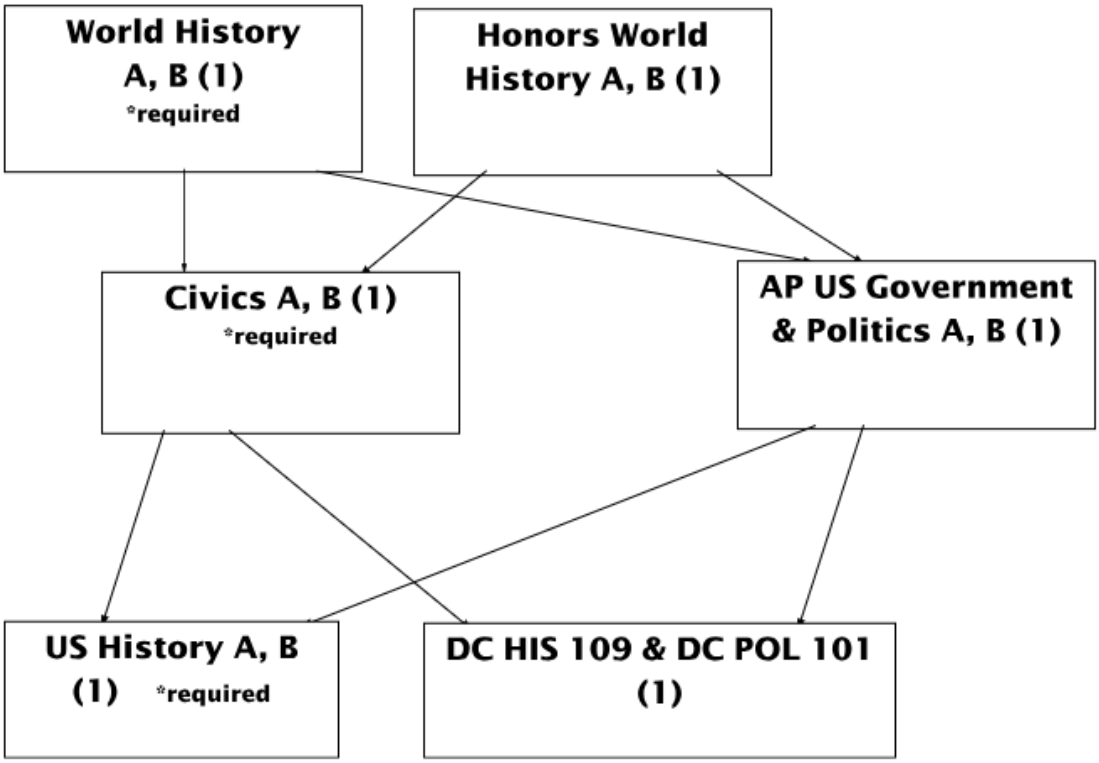
Students must have **4** math credits to graduate and must take **at least one** math class **EACH** year in high school.

Science Course Sequences



If the AP Course option is chosen, successful completion of 2 trimesters would complete the Science requirement each year, but it is recommended that the C course be taken for completion of the course and test preparation.

Social Studies Course Sequences



Note from Your Guidance Counselor

This Curriculum Guide is designed to serve as a tool to facilitate decisions concerning your high school program of study. The classes described in this Course Guide Handbook include those that may be a part of the total curriculum offerings at John Hardin High School. **Actual course offerings will depend on the needs and interests of the student population.** It is crucial that you make prudent decisions concerning your course of study and that you begin to make those decisions early. All too often we talk with frustrated juniors and seniors who have eliminated themselves from opportunities because of dismal efforts their freshman year. When you finish your senior year at John Hardin High School, you will be ready to move on to the next step in preparing for a career. For many of you, that will mean going on to post-secondary education at a college or university. What you have done your freshman year of high school is every bit as important as what you do your senior year. The grades for each of your four years are of equal weight in determining your final GPA. Likewise, your efforts in acquiring knowledge from your courses will determine your scores on college entrance exams and placement tests.

What you do in high school will determine what you will be doing for the rest of your working career. What you do now will determine your income, where you live, the type of car you drive and your lifestyle. Give yourself the best possible advantage! Remember… "**LET HIGH SCHOOL HELP YOU GET WHERE YOU WANT TO GO!"**

TRIMESTER SCHEDULING

The 3 X 5 trimester schedule is a 5 period day. For each class, students will receive two progress reports then a 12 week report card earning .5 credit for each class passed. There are three trimesters in a school year providing students the opportunity to earn 2.5 credits per trimester with a total of 7.5 credits per year.

Here's how scheduling works: First, students will complete a Transcript Check to ensure they are taking the proper classes needed for graduation. Then they will be given the registration forms to enroll in classes for the next school year. Parent signature is needed on the registration form. Tentative schedules should be sent home by the end of school.

SCHEDULING INFORMATION

The following information will assist you in completing your schedule for next year. **Please give careful thought to your selection of courses.**

- You and your parents are responsible for choosing courses designed to meet graduation requirements. If you do not complete a schedule by the deadline, your counselor will complete one for you. This eliminates the opportunity for you to choose your own classes and therefore prevents you from changing the schedule made out for you.
- All underclassmen are required to take English, Math, Science, and Social Studies.
- Most courses are based on 2 trimesters a year (24 weeks) of instruction. You will earn .5 credit for successful completion of each course per trimester.
- If you fail a required course in the first or second trimester, your counselor may change your schedule to repeat that course in the next trimester.
- A teacher recommendation and/or an application may be required for some electives. This requirement is noted in the course selection guide.
- Remember that you are choosing classes for the whole year, so please select carefully. **Schedule change requests will not be honored after a trimester begins.**
- While certain courses are required, there are many elective courses from which to choose. The choice of courses should be based on individual career goals, interests, abilities, aptitudes, and prior grades.
- Courses must be chosen from those listed for the grade in which the student is enrolled.
- Each student must select 15 courses per year which equals 2.5 credits per trimester, 7.5 credits per year. Combinations of 1-, 2-, or 3-trimester courses may be selected to meet this total.

SCHEDULE CHANGES

A student **may not** drop classes without the permission of a parent/guardian and guidance counselor. Schedule changes **WILL BE MINIMAL.** Students who desire a schedule change must pick up a schedule change request form from the Guidance Office. **All schedule change requests must be submitted to the counselor prior to the last week of any trimester to affect the upcoming trimester.** After that time, changes will be made by the counselor only, for the following reasons:

- Inappropriate placement
- Class balancing
- To ensure graduation requirements
- Physical limitations
- Course completed in summer or night school
- Placement in a credit recovery course
- At the discretion of principal and / or counselor
- Students will not be allowed to drop an AP course without Principal approval, and teacher recommendation at the end of the first trimester.

It is ***imperative*** that students give their course selection serious consideration.

PREPARATION FOR COLLEGE ADMISSION

TIME TABLE

Freshman

1. Follow the Pre-College Curriculum as outlined under the Academic Studies Program.
2. Maintain a high grade point average, (KEES money earned for all four years of high school applies to **every year** of college). *
3. Discuss financing your college education with your parents.
4. Start contributing to a tax-exempt, college specific savings program, (investigate state sponsored plans. Kentucky offers the CAP and KTG program).
5. Investigate colleges and college majors.
6. Get involved. Investigate and join clubs and organizations. Seek out opportunities for volunteer service.

Sophomore

1. Follow the Pre-College Curriculum, (should include English, Geometry, Biology and foreign language).
2. Maintain a high grade point average.
3. Increase your input in a college savings program.
4. Be active in school clubs, government and organizations. Volunteer your time to charity work.

***KEES** money applies to any accredited public or private institution in Kentucky *or* Academic Common Market school out-of-state. Check current status at www.kheaa.com

Junior

1. In October, take the **PSAT.** Use the results to determine areas of weakness.
2. Continue with the Pre-College Curriculum, (should include chemistry and advanced math classes).
3. Explore careers/college majors and determine colleges where *those* majors are offered.
4. During the school year:
   a. List your college choices
   b. Determine the required college entrance tests and requirements
   c. Contact a school counselor for more information about high school courses to take during your senior year.
   d. Attend the local College Fair at the Early College and Career Center (EC3)

e. Look for ACT prep course(s), (can be online, such as the KAPLAN Program or at ECTC).

5. In March, juniors will take the **ACT.** Students may also want to take the SAT or re-take the ACT. Register online at: www.actstudent.org or www.collegeboard.com (SAT)
6. In the summer, visit college campuses.
7. Calculate the expected cost of your college choices.*
8. Investigate and research scholarship opportunities.
9. Increase your input in a savings program.

Senior

1. Any senior who would like to improve their ACT score should take the test in the fall. Retesting should be considered based on particular college admission requirements. Look for ACT prep programs/materials. (The KEES money for the ACT bonus applies to **every year** of college).
2. Begin writing essays or letters of recommendation required for admissions. Create a resume for letters of recommendation. If you are involved in athletics, register with the NCAA Clearinghouse. Develop an athletic portfolio to present to coaches. Make contact with college coaches. Follow up with a visit to the prospective coach.
3. Attend a College Fair and/or other opportunities to meet with college representatives.
4. Finalize college applications and housing requests, (generally, colleges will not accept housing applications until students have been accepted).
5. Be constantly aware of announcements concerning scholarships. Investigate scholarship opportunities from: the college/university, the department of your major at the college of your choice, your local community, your guidance counselor, the newspaper, your library (example: The Scholarship Book) and the Internet.
6. Complete the FAFSA online at: (www.fafsa.ed.gov) in October. You should receive your SAR (Student Aid Report) in four to six weeks.
7. Attend a financial aid workshop. Apply for financial aid ASAP. (Apply whether you think you qualify or not; grants, loans and scholarships require you to have a FAFSA form on file). Decide if you need to apply for grants or loans.

Note: The **ACT** will suffice for in-state public colleges. The **SAT may** be required for some out-of-state colleges or private schools. (Be sure to check with the college or university of your choice for specific entrance requirements).

***KEES** money applies to any accredited public or private institution in Kentucky *or* Academic Common Market school out-of-state. Check current status at www.kheaa.com

John Hardin Course Guide

AGRICULTURE SCIENCE

PRINCIPLES OF AGRICULTURE A/B

Recommended Grade Level: 9

Think that agriculture is just farming? Think again! There are over 300 careers that agriculture offers, from scientist to wildlife management and from florist to veterinarian. This class will focus on understanding the various careers out there in agriculture and building the skills needed to find employment in any career after high school. Also, students will learn about keeping proper records in their day-to-day lives. Introduction to Agriculture is a hands-on class that will also cover animal and plant science, mechanic skills, as well as understanding natural resources. Students are encouraged to get involved in FFA in order to enhance their experience in this class.

AGRISCIENCE A/B

Recommended Grade Level: 10 - 12

Agriscience introduces the scientific agricultural approach to animal science and selection, and plant and land science. Agricultural career opportunities will be emphasized in each class. Laboratory experiences relating to basic and current technology will be part of the program. Content may be enhanced by utilizing appropriate computer applications. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program and keep appropriate records.

SMALL ANIMAL TECHNOLOGY A/B

Recommended Grade Level: 10 - 12

Prerequisite: It is recommended that students have a working knowledge of animal science.
This course develops scientific knowledge, management practices, and marketing strategies in small and specialty animal technology. The curriculum includes identification, anatomy, physiology, nutrition, health, selection and care of small animals such as dogs, cats, rabbits, companion birds, ostriches, emus, tropical fish, and fur bearers. Content will be enhanced with appropriate applied scientific laboratory activities and computer applications. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program.

GREENHOUSE TECHNOLOGY A/B

Recommended Grade Level: 10 - 12

This course explores the many areas of horticulture and will utilize the school's state-of-the-art 2880 square foot Greenhouse for many of its objectives. Students, in both a classroom and hands-on laboratory setting, will learn about plant: selection, reproduction, growth, identification, fertilization, pest control and marketing. Units of study also will include: Greenhouse Structures, Watering Systems, Hydroponics and Aquaculture. Content will be enhanced with appropriate video material and computer applications. Construction projects based out of the Mechanic's Laboratory may also be included. Expansion and improvement of Outdoor Laboratories will be explored. Students will be expected to maintain a Supervised Agriscience Experience Project. FFA activities will be utilized throughout the semester as an integral component of the course content.

AGRICULTURAL EMPLOYABILITY SKILLS A/B/C

Recommended Grade Level: 12

Prerequisite: Approval from teacher and application
This special assignment course is for seniors who wish to assist in the operations of the various laboratories within the Agriculture Department including the Mechanic's Lab, Greenhouse, and Outdoor Labs. Tasks will vary depending upon semester and block placement is made. Entrepreneurial and business training opportunities will be explored as students take an active role in greenhouse and mechanic's lab product sales and handling of departmental paperwork. Maintenance and upkeep of facilities will be an integral responsibility of all participants in this course. Keeping a daily log as well as maintaining positive interaction with students enrolled in other concurrently offered Ag. courses and the general public is a must. Students signing up for this course are expected to have active involvement in all three facets of Ag. Education, namely: Classroom and Laboratory Instruction, Supervised Agricultural Experience and the National FFA Organization. Regular attendance and punctuality are crucial for successful completion of this course.

AGRICULTURE SALES AND MARKETING A/B/C

Recommended Grade Level: 10 - 12

This course provides an introduction to agricultural sales and marketing, including. Course material will include: competition in the agriculture market place, marketing decisions, types of markets, contracting, government programs and regulations, personal development, employee and employer responsibilities, communications, promotion strategies, records, files, purchasing materials, stocking, selling and business account procedures. Content may be enhanced with appropriate computer applications. Leadership development will be provided through FFA. Each student will be expected to have a supervised agricultural experience program.

VETERINARY SCIENCE A/B

Recommended Grade Level: 11 - 12

This course introduces students to the field of veterinary science. Major topics include veterinary terminology, safety, sanitation, anatomy/physiology, clinical exams, hospital procedures, parasitology, posology, laboratory techniques, nutrition, disease, office management, and animal management. Careers are also explored. Leadership development will be provided through FFA. Each student will be expected to have an agricultural experience program.

ARMY JUNIOR ROTC PROGRAM

JROTC I, II, III, IV A/B/C

Recommended Grade Level: 9 -12

Three trimesters of JROTC meets the requirements for Physical Education I, which is required for graduation.
Army Junior Reserve Officer Training (JROTC) Program

The U.S. Army Junior Reserve Officers' Training Corps (JROTC) is one of the largest character development and citizenship programs for youth in the world. The JROTC program is designed to "instill in students in United States secondary educational institutions the values of citizenship, service to the United States, and personal responsibility and a sense of accomplishment." JROTC's mission, "To Motivate Young People to be Better Citizens", is the guidepost for the program's success. Satisfactory completion of the program can lead to advanced placement credit in Senior ROTC at the college level or advanced entry rank in all branches of the Armed Forces.

The JROTC curriculum provides equitable and challenging academic content and authentic learning experiences for all Cadets. The JROTC curriculum includes lessons in leadership, health and wellness, physical fitness, first-aid, geography, American history and government, communications, and emotional intelligence. Cadets participate in many co-curricular activities to demonstrate their attainment of lesson outcomes. Some of these activities include precision and exhibition military drill competitions, air rifle competitions (optional), Raider Challenge competitions, JROTC Leadership and Academic Bowl (JLAB), and a physical fitness competition known as JROTC Cadet Leadership Challenge (JCLC).

BUSINESS & MARKETING EDUCATION

DIGITAL LITERACY A/B

Recommended Grade Level: 9 - 12

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

BUSINESS & MARKETING ESSENTIALS A/B

Recommended Grade Level: 9 - 12

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 DECA.

WKU SUPR 100 A

Recommended Grade Level: 9 - 12

Start Your College Career with a Dual Credit Business class. This class will look at the various segments of business. 2.5GPA is the required GPA to take this class. We will work with Marketing, Business, Finance, Accounting, Management, and other business segments.
***GPA Requirement**

MARKETING PRINCIPLES A/B

Recommended Grade Level: 9 - 12

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 with ethical dilemmas and problem-solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through DECA.

SPORTS & ENTERTAINMENT MARKETING A/B

Recommended Grade Level: 10 - 12

This sport/event marketing course develops student understanding of the sport/event industries, their impact on local communities, and products; career opportunities in sport/event marketing; factors motivating people to participate in or attend sport and events; pricing considerations; positioning and product/service management; advertising, direct marketing, publicity, and sales promotion; and marketing-information management. Throughout the course, students are presented with ethical dilemmas and problem- solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through DECA.

BUSINESS COMM/ WKU COMM145-Dual Credit Public Speaking A

Recommended Grade Level: 11 - 12

Fundamentals of Public Speaking is designed to increase your understanding of the principles and processes of communicating effectively in public contexts and to facilitate development of your own effective public communication skills. This is done through a combination of speaking, listening, writing, and reading assignments. Specifically, you will outline, develop, and deliver extemporaneous speeches incorporating relevant sources. You will learn how to develop and deliver messages that are appropriate and effective for the audience, purpose, and context using logical arguments within an ethical framework. The assignments are designed to develop your understanding and skills progressively throughout the semester.

***GPA Requirement**

ENTREPRENEURSHIP A/B

Recommended Grade Level: 10 - 12

Principles of Entrepreneurship 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 with ethical dilemmas and problem- solving situations for which they must apply academic and critical-thinking skills. Leadership development will be provided through DECA.

ETHICAL LEADERSHIP/DUAL CREDIT WKU LEAD200 A

Recommended Grade Level: 11 - 12

An introduction to the basics of effective leadership including an investigation of leadership theories and assessment of leadership styles. Colonnade/Statewide General Education

***GPA Requirement**

MARKETING APPLICATIONS A/B MKT 220 A

Recommended Grade Level: 11 - 12

Introduction to the functional activities of marketing including product, distribution, promotion, and pricing decisions; the importance of a consumer orientation; and strategic marketing planning including implementation and control marketing activities.

WKU FIN161/PERSONAL FINANCE A

Recommended Grade Level: 12

Designed to serve the personal finance needs of students regardless of their major fields. Practical applications in personal and family financial planning, including credit, buying, borrowing, banking, insurance, investments, taxation, estate planning and home ownership. Colonnade/Statewide General Education

***GPA Requirement**

WKU ACCT 110 ACCOUNTING FOR DECISION MAKERS A/B

Recommended Grade Level: 12

This is an introductory course covering both financial and managerial accounting concepts, practices, and tools for decision making. Emphasis on financial accounting topics include effects of transactions on accounts, preparation of financial statements, and accounting for merchandising business while utilizing a no debit-credit framework. Managerial accounting topics covered include relevant costs, cost behavior and breakeven, product costing, and budgeting. Introduction of financial statement analysis will enhance the student's ability to utilize the accounting function in a decision making environment.

***GPA Requirement**

ENGINEERING

ENGINEERING I A/B

Recommended Grade Level: 9 -12

This course begins by exploring Engineering career fields and then moves into learning the Engineering Design Process. The students then take this process and apply it to hands-on activities/projects. This Introductory course will allow students to learn about and use CAD software which will then be utilized for projects, to include 3D printers and laser engravers. Current events in technology will come together to help form the building blocks for this STEM class.

ENGINEERING II A/B

Recommended Grade Level: 10 -12

Prerequisites: Engineering I

This course helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit the world around them. The course topics include simple machines, electricity, thermodynamics, robotics and coding.

FAMILY CONSUMER SCIENCE

FACS ESSENTIALS A/B

Recommended Grade Level: 9 - 12

FACS Life Skills provides students basic skills needed in life. Emphasis is on: work and family, adolescent development, consumer spending, challenges of child rearing, guidance in establishing relationships with others, identifying positive and negative influences of peers, summarizing ways of reducing or preventing teen pregnancy, planning a personal budget, analyzing good /poor study habits, developing personal short and long-term goals, planning menus for a day using basic food groups, preparing a simple meal and practice dining etiquette, and exploring careers and characteristics needed by employers and employees. The Financial Literacy principles taught in the course include a study of economics, money in the economy, budgeting, credit, consumer rights and responsibilities, taxes, employee benefits, insurance, investments, and retirement planning. These principles will be taught using hands-on activities for personal use or in the business world.

RELATIONSHIPS A

Recommended Grade Level: 10 - 12

Relationships assists students to develop self-understanding, understand others better, improve interpersonal skills both within and outside the family, be more considerate of other person's needs and property, and maintain mental and emotional wellness. Family Life education comprises a portion of this course, including married and dating relationships. Preparations for the achievement of a successful marriage are emphasized.

MONEY SKILLS A/B

Recommended Grade Level: 11 - 12

Prerequisite: FACS Essentials

Money Skills A is designed to prepare students to understand and use sound financial management skills and practices contributing to financial stability, improving the quality of life for individuals and families. Decision-making, problem solving, goal setting and using technology are integrated throughout the content. Money Skills A will cover Values, Needs vs. Wants & Goals, Career Planning, Where is My Money Going, Spending Plan, Savings Plan and Investing.

PARENTING A

Recommended Grade Level: 9 - 12

Parenting is designed to aid students in developing parenting and care giving skills that can be applied in a variety of situations. Major topics include becoming an informed parent, the study of human reproduction, prenatal development, care of a baby and being an effective parent/caregiver.

CHILD/HUMAN DEVELOPMENT (EARLY LIFESPAN DEVELOPMENT)

Recommended Grade Level: 10 - 12

Child/Human Development addresses the practical problems related to understanding the types and stages of human growth and development, and promoting optimum growth and development in the infancy, toddler and preschool stages. Careers in child development are explored.

FOODS AND NUTRITION A/B

Recommended Grade Level: 10 - 12

Foods and Nutrition provides an in-depth study of the science of food, more intricate preparation skills, and explores food preparation in a food service atmosphere. Laboratory instruction is an application process. Nutritional facts, special health concerns and diets, management of resources, preparation skills and careers in nutrition and food service are all addressed.

PRINCIPLES OF HOSPITALITY A/B

Recommended Grade Level: 11 - 12

The Hospitality, Travel, Tourism and Recreation career pathway prepares individuals to provide services in the hospitality and leisure fields. Includes instruction in hospitality operations; customer sales; marketing techniques; assistance operations and techniques; basic office management; sports, recreation and equipment management; and food and beverage services. The Hospitality, Travel, Tourism and Recreation career pathway is a hybrid pathway that consists of courses within Family Consumer Sciences Education and Marketing Education. It blends two program areas to help students explore technical skills in the industry.

CHILD DEVELOPMENT SERVICES I

Recommended Grade Level: 11 - 12

This course provides training for entry-level positions in early childhood education programs. Students study professionalism, employability skills, child growth and development, health, safety and nutrition, learning environments and curriculum, child assessment, program management and evaluation as well as family and community partnerships. 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 (FCCLA).

CHILD DEVELOPMENT SERVICES II A/B

Recommended Grade Level: 11 - 12

Prerequisite: Child/Human Development with a grade of 'C' or better and teacher recommendation AND Child Development Services I with a grade of "B" or better and teacher recommendation.

Child Development Services II is a continuation of Child Development Services I and is designed for students who wish to further their training in early childhood education. Students gain in-depth work experiences in child care establishments, preschool centers, and other early childhood settings. Leadership development will be provided through the Family, Career and Community Leaders of America (FCCLA).

FASHION AND INTERIOR DESIGN I A/B

Recommended Grade Level: 10 - 12

This course provides opportunities for students to explore career skills needed for the fashion and interior design industry. Students will examine the impact of history, culture, and the environment on current and future trends in fashion and interior design. Students will gain knowledge of and evaluate the elements and principles of design, learn to apply color theory to a variety of settings and situations, as well as construct fashion and interior design projects that demonstrate comprehension.

FASHION AND INTERIOR DESIGN II A/B

Recommended Grade Level: 10 - 12

Fashion and Interior Design II provides opportunities for students to develop career competencies in the fashion and interior design industry. Advanced design techniques, apparel design and production, textile performance, and sewing construction techniques are used for client designs and application as an integral component of this course. Students will implement technology to create visual presentations for clients and the development of an individual digital portfolio. Students are expected to be involved in the development, operation, and design process of the School Spirit Store, PawPrints. Work hours between 8:00 am. and 8:30 a.m. in the school store will be expected of students and a minimum number of work hours will be tied to the grading process.

FINE ARTS

CONCERT BAND A/B/C

Recommended Grade Level: 9 - 12

Prerequisite: Must have been in band at the middle school level

This class is open to freshman instrumental students. The class is also available to those Symphonic Band students wishing to learn a secondary instrument. The concert band performs approximately four to five times a year and may take spring trips. Although Concert Band meets during the school day, it will require after school sectionals, rehearsals, and performances. ALL performances and rehearsals will be graded. A performance is considered the same as a final exam or test grade and will be graded accordingly. The class builds upon knowledge and skills acquired in middle level arts programs to provide students with a foundation in the arts that enables them to appreciate their cultural and historical heritage. The main focus of this class is to enable the student to respond to all art forms through performing, analyzing, interpreting, evaluating, and considering the performing arts as significant human achievements. A variety of media, print sources, and participatory activities will be blended to provide a connection among periods, styles, and cultures. Students will become aware that time, place, and society influence the performing arts and that different peoples share common experiences and attitudes.

In order to be eligible for KMEA sponsored events (i.e. All-State, All-District, Solo and Ensemble festivals) a student should be enrolled as a member of a performing group in his or her own school which meets during the academic school day and earns 1.5 credit (e.g. enrolled in 3 consecutive trimesters).

PERCUSSION ENSEMBLE A/B/C

Recommended Grade Level: 9 - 12

This class is open to percussion students based on an audition or a recommendation from the director. The class is also available to those Symphonic Band / Concert Band students wishing to learn a secondary instrument. The Percussion Ensemble performs approximately four to five times a year and may compete during the spring semester. Although the Percussion Ensemble meets during the school day, it will require after school sectionals, rehearsals, and performances. ALL performances and rehearsals will be graded. A performance is considered the same as a final exam or test grade and will be graded accordingly. Students will be required to own specific sticks, practice pad, and mallets. The class builds upon knowledge and skills acquired in middle level arts programs to provide students with a foundation in the percussion medium that enables them to appreciate its cultural and historical heritage. The main focus of this class is to enable the student to respond to all art forms through performing, analyzing, interpreting, evaluating, and considering the performing arts as significant human achievements. A variety of media, print sources, and participatory activities will be blended to provide a connection among periods, styles, and cultures. Students will become aware that time, place, and society influence the performing arts and that different peoples share common experiences and attitudes.
In order to be eligible for KMEA sponsored events (i.e. All-State, All-District, Solo and Ensemble festivals) a student should be enrolled as a member of a performing group in his or her own school which meets during the academic school day and earns 1.5 credit (e.g. enrolled in 3 consecutive trimesters).

MUSIC THEORY A/B

Recommended Grade Level: 10 - 12

Music Theory is for students, preferably with prior musical training, who strive for a deeper knowledge of the mechanics and theoretical backgrounds of 18th and 19th century western music. Students should be able to read music and should have studied an instrument or voice before taking this course. Teacher will approve those who do not meet these criteria. Level of study will range from rudimentary concepts of notation to more advanced topics such as form, harmony, chord structure, Roman numeral analysis and music composition. Students will be utilizing technology through composition of music on Finale and other music software. Students may enroll in one or two trimesters.

WORLD MUSIC A/B

Recommended Grade Level: 9 - 12

This course presents a survey of cross-cultural popular music and the traditional music that influenced it from various parts of the world. The class will address social and cultural roles of the music and factors influencing its development and dissemination. Students will learn by participating in music-making, listening to live and recorded music, reading, writing, and discussing. Two trimesters of World Music will fulfill the Arts and Humanities credit, which is required for graduation.

CONCERT CHOIR A/B/C

Recommended Grade Level: 9 - 12

(Soprano-Alto-Tenor-Bass Choir – Men and Women)

Mixed Choir is a ***three-trimester class*** that is open to any male or female student. Students may enroll in one, two or three trimesters, but are encouraged to enroll in all three trimesters. The class builds upon knowledge and skills acquired in middle level arts programs to provide students with a grounding in the arts that enables them to appreciate their cultural and historical heritage. The main focus of this class is to enable the student to respond to all art forms through performing, describing, analyzing, interpreting, evaluating, and considering the performing arts as significant human achievements. A variety of media, print sources, and participatory activities (including graded student generated solo and group performances of varied musical, dance, and theater selections) will be blended to provide a connection among periods, styles, and cultures. Students will become aware that time, place, and society influence the performing arts and that different peoples share common experiences and attitudes. Opportunities for honor choirs will be offered to interested students. Although Mixed Choir is a class that meets during the school day, it also requires after school hours devoted to performances. Choral students will be graded on their attendance and participation in the following required performances: Fall/Winter/Spring Performances and Spring Performance Assessment. There are also opportunities to perform for community events. (***All performances are required***.) Two trimesters of Mixed Choir will fulfill the Arts and Humanities credit, which is required for graduation.

GUITAR A/B

Recommended Grade Level: 9 - 12

Students will learn to play the **acoustic** guitar while learning to read music and to understand music theory. Students will work on performance techniques, and will perform as a group and as individuals. We will also explore the role of the guitar, as well as guitar music in history and in other cultures. Note: Students must provide their own acoustic guitar. This class will count as .5 credits towards the Arts and Humanities graduation requirement.

DRAMA/MUSICAL THEATRE A/B/C

Recommended Grade Level: 9 - 12

This course addresses the historical development of drama and musical theatre. Students will study literature of theatre and musical theatre and how it influenced production and performance through history. Major contributors and the architecture of the theatre will be topics of study. Performance and technical theatre opportunities will be available to students in the form of short skits or one-acts from plays and musicals. Students may enroll for one, two or three trimesters to further advance knowledge and theatrical skills. Two trimesters of Drama/Musical Theatre will fulfill the Arts and Humanities credit, which is required for graduation.

PIANO/KEYBOARD A/B/C

Recommended Grade Level: 9 - 12

Piano/Keyboard courses develop fundamentals of music including music reading and use of the elements of music along with keyboard playing techniques for piano and/or electronic keyboard instruments. As students develop performance skills, techniques and music literature become more advanced. Students may study independently and progress at their own level. Students may enroll for one, two or three trimesters to further advance piano/keyboard skills. This class will count as .5 credits towards the Arts and Humanities graduation requirement.

VISUAL ART I A/B

Recommended Grade Level: 9 - 12

This course provides in-depth instruction in art history and the study of drawing, painting, printmaking, & design. Art appreciation, evaluation, and aesthetics will be incorporated. Written assignments and tests are given. A sketchbook and drawing pencils are required.

VISUAL ART II A/B

Recommended Grade Level: 10 - 12

Prerequisite: Student must have earned a C in Art 1 A&B

Any student who has earned a credit in Art I may enroll in this class. This course includes the further development of skills in design, drawing, painting, printmaking, and ceramics. Written assignments and tests are given. A sketchbook and drawing pencils are required.

VISUAL ART II 3-D A/B

Recommended Grade Level: 10 - 12

This is a level 2 Art Class. This class will focus on the exploration of new materials and techniques with an appreciation of sculptural three-dimensional forms.

VISUAL ART III A/B

Recommended Grade Level: 11 - 12

Prerequisite: Students must have earned a C in Art 1 A&B and Art II A&B

Any student that has earned credits in both Art I and Art II may enroll in this class. This course includes the further development of skills in design, drawing, painting, ceramics, and printmaking. Written assignments and tests are given. A sketchbook and drawing pencils are required.

VISUAL ART IV A/B

Recommended Grade Level: 12

Prerequisite: Students must have earned a C in Art 1 A&B, Art 2 A&B and Art 3 A&B

Any student that has earned credits in both Art I and Art II may enroll in this class. This course includes the further development of skills in design, drawing, painting, ceramics, and printmaking. Written assignments and tests are given. A sketchbook and drawing pencils are required.

INDEPENDENT ART A/B/C

Recommended Grade Level: 11 - 12

Prerequisite: Art 1 & 2, and art teacher approval

This class is for the serious art student to work independently. The student will be given several assignments that allow for individualized creativity. The student will be required to keep a daily journal of classroom productivity and progress. Students will work with various media and processes. This class requires a student who is focused and can work well with deadlines.

FOREIGN LANGUAGE

Due to decreasing enrollment school wide, upper level language classes will be offered based upon numbers. Levels 3 and Advanced Placement will exist if enough students sign up. Additional pre-AP classes are available on a case-by-case basis. Please talk to your world language teacher to make arrangements for additional language classes to prepare you for your AP test.

JHHS Department of World Languages: Performance/Proficiency based credit for acquiring World Language skills outside or inside the classroom.

The John Hardin High Department of World Languages has created summative assessments available to students who wish to earn credit for what they already know by earning qualifying scores in levels one through three in German and/or Spanish.

There are no fees for each exam. Students are tested in reading, writing, listening and speaking using real-world and multiple choice/true and false questions that test level-appropriate topics and content that engages students. A student must earn a C or better on all portions of the exam in order to move to the next level. The score earned on the exam will be the score that appears on the student's transcript, if the student elects to skip a language level.

If a student chooses to take a STAMP exam (at his or her cost, unless administered by the school), the STAMP scoring will be used to determine grades earned:

Nov Mid= 2 Novice High = 3 Intermediate Low = 4 And so on…
level 1/2 MUST earn a 2 in 3 of 4 skills assessed. Taking their top 3 scores: 2 = 92%, 3 = 95%, 4 = 100%
level 3/4 MUST earn a 3 in 3 of 4 skills assessed. Taking their top 3 scores: 3 = 92%, 4 = 95%, 5 = 100%

STAMP tests are also accepted by many KY colleges and universities as proof of proficiency for some required, World Language courses. John Hardin students need to speak with their guidance counselor to schedule an appointment with a world language teacher to take the exam. Tests may not be repeated; students who do not earn a C or better on the exam must sign up for the regular class to earn World Language credits.

SPANISH I A/B

Recommended Grade Level: 9 - 12

The development of the four basic language skills is stressed: listening comprehension, speaking, reading, and writing. Using a conversational approach and text, students learn about life in Spain, Mexico, Central and South America, and the civilizations of the countries. They will learn basic vocabulary and speech patterns while acquiring a correct pronunciation of a most interesting and useful ever-growing language.

SPANISH II A/B

Recommended Grade Level: 10 - 12

Prerequisite: Spanish I
Level II continues development in the four basic language skills: listening comprehension, speaking, reading, and writing. The work covered in Spanish I will be continued on a more advanced level with emphasis on communication skills that would be useful in any Spanish-speaking country.

SPANISH III A/B

Recommended Grade Level: 11-12
Prerequisite: a grade of B or higher in Spanish I and II or teacher recommendation

Level III continues development in the four basic language skills: listening comprehension, speaking, reading, and writing with emphasis on grammar and on culture, customs and traditions of Spanish-speaking countries. An introduction to literary reading is offered. More independent study and student responsibility is expected at this level.

AP SPANISH LANGUAGE A/B/C

Recommended Grade Level: 11 - 12

Prerequisite: at least a B in Spanish I, II, III or teacher recommendation
The development of the four basic language skills will be continued along with the study of Spanish culture, customs, and traditions of the people whose language is studied. Students who take AP Spanish are expected to take the AP Spanish exam and the class is conducted in a manner to prepare all students for the AP exam. Released AP exams from previous years will be used as supplementary practice. The study of literary readings continues. A qualifying grade on the AP exam could earn the student college credit for the course.

GERMAN I A/B

Recommended Grade Level: 9 - 12

The development of the four basic language skills is stressed: listening comprehension, speaking, reading, and writing. Using a conversational approach and text, students will learn introductory information about life in German speaking countries as well as the culture, history, and holidays of Germany, Switzerland, and Austria. The students will learn vocabulary and conversational skills while acquiring correct pronunciation and speech patterns that will enable them to communicate on a basic level in this most important and interesting world language.

GERMAN II A/B

Recommended Grade Level: 10 - 12

Prerequisite: German I
Level II continues development in the four basic language skills: listening, comprehension, speaking, reading, and writing, and culture awareness of the German speaking countries. The work covered in German I is continued, but at a more advanced level with emphasis on communication skills useful in any German speaking country. More complicated grammar and expressions will be learned.

GERMAN III A/B

Recommended Grade Level: 11 - 12

Prerequisite: at least a B in German I, II or teacher recommendation

Level III continues the development in the four basic language skills: listening comprehension, speaking, reading, writing, and culture with combined emphasis on oral communication skills as well as grammar, culture, customs, and traditions of the German-speaking countries. An introduction to literary readings and the historical events surrounding the literary period is offered. Independent study and student responsibility is expected at this level.

AP GERMAN A/B/C

Recommended Grade Level: 11 - 12

Prerequisite: at least a B in German I, II, III or teacher recommendation

The development of the basic language skills will be continued along with a study of German culture, customs, and traditions. The study of literary readings continues. Students who sign up for AP German are expected to take the AP Exam and the class is conducted in a manner to prepare all students for the AP exam. Released exams from previous years will be used as supplemental activities. A qualifying grade on the AP exam could earn the student college credit for the course. OR students wishing to obtain six credits hours of college credit awarded by Western Kentucky University may choose to enroll into GER201 and GER202.

HEALTH AND PHYSICAL EDUCATION

HEALTH EDUCATION A

Recommended Grade Level: 9 - 10

This course emphasizes instruction in the health essential skills areas, which are community/consumer health, safety and accident prevention, substance use and abuse, growth and development, personal health, mental health, family life, environmental health and nutrition education.

PHYSICAL EDUCATION A

Recommended Grade Level: 9 - 10

Physical Education I will provide instruction in various activities to meet individual needs and interests of pupils. The main focus of this class will be an emphasis on wellness and physical fitness. The assessments used will be primarily individual in nature. Activities will consist of both individual and team sports, along with a wide variety of exercise. Students are required to dress in appropriate gym clothing and participate in class. The successful completion of one semester of health and physical education is required for high school graduation.

TEAM SPORTS (FALL, WINTER, SPRING) A/B/C

Recommended Grade Level: 10 - 12

This course offers students the opportunity to strengthen the specific skills of different sports. Students will learn rules and strategies of various team sports including: volleyball, basketball, softball, wiffle ball, team handball, flag football, badminton, and ultimate Frisbee. Students will develop skills and improve physical fitness throughout the course. A student must have successfully completed physical education I before signing up for this class.

CONDITIONING A/B/C

Recommended Grade Level: 10 - 12

This is an advanced Physical Education class that stresses physical conditioning. The class consists of an organized program of cardiovascular, plyometric and strength training. This class is open to all students who have successfully completed physical education I. A student may enroll in either Conditioning or Physical Education. The student cannot enroll in both classes during the same semester.

LANGUAGE ARTS

ENGLISH I A/B

Grade Level: 9

Following a literature-based integrated approach, English I continues to develop students' language arts abilities in reading, writing, speaking, and thinking which were gained in the elementary and middle schools. Emphasis will be on strengthening reading and basic grammar skills. Students study a variety of genres of literature and practice the stages of the writing process by composing writings for varied purposes and audiences. They refine their abilities to handle conventional matters of punctuation, spelling, and usage within the context of writing. Students' writing experiences are not restricted to responding to and interpreting literature, but are also encouraged in many areas of interest. Students are required to keep writing folders.

HONORS ENGLISH I A/B

Grade Level: 9

Honors English I emphasizes an in-depth analysis of fiction and non-fiction literature. Students will become critical readers and analyze literature beyond simple comprehension and literal interpretation. Students will have writing assignments in relation to the literature studied. This course provides diversified writing experiences, including general and specific themes, timed essays, and critical analysis. Students are required to keep writing folders. This course is designed to help prepare students for success in AP Language and AP Literature.

ENGLISH II A/B

Grade Level: 10

Following a literature-based integrated approach, English II continues the refinement of students' skills in language arts. Students read, respond, and interpret a variety of types of literary and journalistic writings and continue their study of the writing process, reinforcing their writing skills by addressing a variety of audiences and purposes. Student writings and literary selections are used as the basis for teaching the skills of mechanics and usage. Emphasis is placed on reading. All students are required to keep writing folders.

HONORS ENGLISH II A/B

Grade Level: 10

Honors English II continues an in-depth analysis of fiction and non-fiction literature. Students will use critical reading skills for in-depth analysis of literature. Students will have writing assignments in relation to the literature studied. This course provides diversified writing experiences, including general and specific themes, timed essays, and critical analysis. Students are required to keep writing folders. This course is designed to help prepare students for success in AP Language and AP Literature.

ENGLISH III A/B/C

Grade Level: 11

Following a literature-based integrated approach, English III continues to develop students' competencies in language arts skills. Content includes instruction in oral and written composition; study skills and reference and research techniques; and the historical, cultural, and aesthetic significance of American literature. Continuing to practice the steps in the writing process, students write for a variety of purposes and audiences. As in English II, mechanics and usage are taught within the context of students' compositions and literary selections. Students are required to keep writing folders and develop writing portfolios.

AP ENGLISH LANGUAGE III A/B/C

Grade Level: 11

This course engages students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. This course is equivalent to a college level introductory English language course. It emphasizes expository, analytical, and argumentative writing that form the basis of academic and professional communication. It culminates in the AP English Language Exam in May for possible college credit. This course also provides excellent preparation for 12th grade AP English Literature.

ENGLISH IV A/B

Grade Level: 12

Following a literature-based integrated approach, English IV offers continued refinement of pupils' abilities in language arts skills. Content includes appropriate experiences in oral and written composition including research techniques and the historical, cultural, and aesthetic significance of English literature, and students attain confidence in handling the stages of the writing process. All seniors are required to keep writing folders and complete writing portfolios. Mechanics and usage skills are reviewed in the context of students' writing and literary selections, and writing for real-world situations.

ENG 111 DUAL CREDIT FRESHMAN COMPOSITION I A

Grade Level: 12

This course allows students to receive 3 college credit hours of English. The course is taught exactly like a college course is taught, giving students experience of discipline and allowing them a chance to gain college credit. The course is strictly a writing course and may count as .5 of your 1 senior English IV requirement.

***GPA Requirement**

ENG 112 DUAL CREDIT FRESHMAN COMPOSITION II B

Grade Level: 12

This course allows students to receive 3 college credit hours. The course is taught exactly like a college course is taught, giving students experience of discipline and allowing them a chance to gain college credit. The course is strictly a writing course and may count as .5 of your 1 senior English IV requirement.

***GPA Requirement**

ENG 161 DUAL CREDIT LITERARY STUDIES C

Grade Level: 12

This course allows students to receive 3 college credit hours of English. The course is taught exactly like a college course is taught, giving students experience of discipline and allowing them a chance to gain college credit.
***GPA Requirement**

MAC 120 DUAL FUNDAMENTALS OF SPEECH C

Grade Level: 11-12

This course allows students to receive 3 college credit hours. The course is taught exactly like a college course is taught, giving students experience of discipline and allowing them a chance to gain college credit.
***GPA Requirement**

AP ENGLISH LITERATURE A/B/C

Grade Level: 12

This survey course of literature and English composition follows the curriculum established by the College Board. Emphasis is placed on all literary genres and writing about literature. Students who complete this course will be prepared to enter college literature courses. After completing this course, students are prepared for the AP exam for college credit.

YEARBOOK A/B/C

Recommended Grade Level: 10 - 12

Prerequisites: Application and Teacher Recommendation

Yearbook introduces students to some of the unique characteristics of photojournalism. Students write, revise, edit, and proofread features, student life articles, and sports articles. They sell advertisements, take photographs, and learn principles of layout and yearbook design. This class is responsible for the preparation and publication of the school yearbook. It shall not be counted as a required English class. *In order to enroll in Yearbook, students must complete an application and obtain teacher recommendations. Final selections are at the Journalism teacher's discretion. It is possible that a select few underclassmen will be chosen. If interested you should contact the teacher prior to scheduling.*

CREATIVE WRITING A/B

Recommended Grade Level: 10 -12

Creative Writing is a workshop for students in grades 10-12 with strong English skills. Students will participate in a variety of creative activities and write in a variety of forms: short story, poetry, news and magazine articles, advertising campaigns, etc. Students will share their writing, offer suggestions for revision, and edit each other's work.

MYTHOLOGY AND FABLE A

Recommended Grade Level: 10 -12

This class will explore the role of myths and legends in the human experience. Students will read classical myths from Greece including the twelve great gods – Zeus, Poseidon, Hades, Hera, Hestia, Athena, Ares, Aphrodite, Hermes, Artemis, Apollo, and Hephaestus – Greek heroes such as Hercules, Jason, and Achilles; and the *Iliad,* which is a story about the Trojan War. Students will explore the ancient culture and analyze the impact that the Greeks still have in today's society.

JOURNALISM A/B/C

Recommended Grade Level: 10 -12

Journalism is a course designed for students interested in newspaper journalism and developing their skills as a writer. The course explores the contemporary media and the ethical responsibility issues inherent in the press today. Students will learn the fundamentals of news, feature, editorial and sports writing. Copy reading, news style and editing will be stressed. Students will create numerous original stories using varied structures and writing techniques. Students will also learn to create computer generated layouts and graphics.

MATHEMATICS

ALGEBRA I A/B/C

Throughout the Algebra 1 course, the content is focused on concepts such as simplifying expressions, solving for unknowns, understanding linear and quadratic functions, inequalities, graphing, factoring, simplifying radicals and exponents and properties of polynomials. This course builds a foundation of mathematical concepts that students will need for all math courses in high school and college.

HONORS ALGEBRA I C

In this course, students will extend topics introduced in Pre-Algebra by learning algebraic concepts through both theory and applications. Modeling and real-world problems are introduced throughout the course. Content introduced in this course includes linear, quadratic, exponential, polynomial, and radical functions. This course prepares students for Honors Geometry and Honors Algebra II.

ALGEBRA II A/B

Prerequisite: Algebra I, to be taken concurrently with Math Concepts
Algebra II introduces the student to and continues the development of concepts related to mathematics with special focus on content related to equations and inequalities, the function concept, graphs of functions and relations, the properties of families of functions, real and complex numbers, statistics and probability, matrices and determinants, rational and polynomial expressions, and sequences and series.

HONORS ALGEBRA II A/B/C

Algebra II introduces the student to and continues the development of concepts related to mathematics with special focus on content related to equations and inequalities, the function concept, graphs of functions and relations, the properties of families of functions, real and complex numbers, statistics and probability, matrices and determinants, rational and polynomial expressions, and sequences and series.
This course is designed so the students develop the relevant skills and concepts from the High School Mathematics Program of Studies beyond the Algebra 1 and Geometry courses and then builds on those in a rigorous, college-preparatory Algebra 2, with opportunities provided for students to progress ahead of the minimal statements from the High School Mathematics Program of Studies.

GEOMETRY A/B

Prerequisite: Algebra I, to be taken concurrently with Math Concepts
Geometry introduces the student to or continues the development of concepts related to two-and-three-dimensional figures and their properties, problem solving using geometric figures, congruence and similarity, inductive and deductive reasoning and measurement (length, area, volume, indirect measurement, Pythagorean Theorem, and right triangle trigonometry).

MATH CONCEPTS

Prerequisite: To be taken concurrently with Geometry
In this course, students will extend their knowledge of Pre-Algebra, Algebra, and Geometry concepts including number sense, functions, and geometric figures. It will address the core academic standards for the 10th grade KSA assessment with a strong emphasis on deepening connections between disciplines.

HONORS GEOMETRY A/B

Prerequisite: Algebra I
In this course, students will cover the foundations of geometrical figures and their measurement. Beginning with the component part of geometrical figures - points, lines, and the study of triangles, quadrilaterals, polygons, circles, and solids. Through the study of definitions, postulates, and theorems, in addition to other related mathematical topics, the properties of these figures are incorporated into an understanding and ability to construct and measure both plane figures and solids. Major topics include deductive and inductive reasoning, triangle relationships and congruence, right triangle trigonometry, similarity, areas of plane figures, and surface areas and volumes of solids. This course prepares students for Honors Algebra II.

PRECALCULUS A/B/C

Prerequisite: Algebra II
Advanced Algebra continues the development of algebra and geometry skills while introducing the students to new concepts necessary for success in college level mathematics with a special focus on functions and trigonometry. Topics included are polynomial, rational, trigonometric, exponential, and logarithmic functions, right triangle and unit circle trigonometric properties, sequences and series, matrices, probability and statistics, analysis of data, and limits. This course will also review trigonometry concepts from Geometry and will introduce new trigonometric properties such as trigonometric functions of acute angles, trigonometry of right angles, isosceles right triangle, 30-60-90 triangle, the law of sines, the law of cosines, evaluating pi, measurement of angles, radian measure, arc length, the unit circle, graphs of trigonometric functions, inverse trigonometric functions and trigonometric identities.

AP CALCULUS AB (CALCULUS I) A/B/C

Prerequisite: Precalculus OR MAT111 and MAT155
AP Calculus AB is roughly equivalent to the first and a portion of the second semester college calculus courses. The AP course covers topics in differential and integral calculus, 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. Students enrolled in AP Calculus AB will prepare for the year-end AP Calculus AB test.

AP CALCULUS BC (CALCULUS II) A/B/C

Prerequisite: AP Calculus AB
AP Calculus BC is roughly equivalent to both first and second semester college calculus courses and extends the content learned in AB to different types of equations and introduces the topic of sequences and series. The AP course covers topics in differential and integral calculus, including concepts and skills of limits, derivatives, definite integrals, the Fundamental Theorem of Calculus, and series. 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. Students enrolled in AP Calculus BC will prepare for the year-end AP Calculus BC test.

DUAL CREDIT COLLEGE ALGEBRA

Prerequisite: Algebra II

This course allows students to receive 3 credit hours of Algebra credit from Campbellsville University. The course is taught exactly like a college course is taught, giving students the experience of discipline and allowing them a chance to gain college credit. The course covers algebraic math concepts that are covered in Algebra 1, Algebra 2, and Precalculus

***GPA Requirement**

DUAL CREDIT COLLEGE TRIGONOMETRY

Prerequisite: Dual Credit College Algebra

This course allows students to receive 3 credit hours of Trigonometry credit from Campbellsville University. The course is taught exactly like a college course is taught, giving students the experience of discipline and allowing them a chance to gain college credit. The course covers trigonometric concepts required for the study of advanced mathematics.

***GPA Requirement**

AP STATISTICS A/B/C

Prerequisite: Algebra II

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes: exploring data: describing patterns and departures from patterns, sampling and experimentation: planning and conducting a study, anticipating patterns: exploring random phenomena using probability and simulation, statistics inference: estimating population parameters and testing hypotheses. Students who successfully complete the course and examination may receive credit and/or advanced placement for a one semester introductory college statistics course.

PERSONAL FINANCE

Prerequisite: Algebra II

How money smart are you? In this course, students learn the importance of the financial world, including planning and managing money wisely. Through project-based learning activities and tasks, students will apply mathematical concepts in realistic scenarios and will actively engage by applying the mathematics necessary to make informed decisions related to personal finance. Financial math places great emphasis on problem solving, reasoning, representing, connecting and communicating financial data.

SCIENCE

INTEGRATED SCIENCE A/B

Grade Level: 9

This course will address basic scientific skills that are common across all science disciplines using inquiry science. The skills will include the Scientific Method, lab measurements, knowledge of and use of various lab equipment, and the nature of science. The course will focus on essential skills needed to create a proper formal lab report and how the report might be different for different types of experiments. An array of methods will be used to maximize your learning opportunities. In part A, they will experience physical science concepts such as motions and forces, work, heat, waves, and conservation of energy. In part B, students will use the process of engineering to investigate chemical concepts like matter, atoms and interactions of energy with matter and its connections. A scientific inquiry approach uses concrete, hands-on experiences that require students to apply critical-thinking skills.

AP ENVIRONMENTAL SCIENCE A/B/C

Grade Level: 9

This course is designed to be the equivalent of a one-semester, introductory college course in environmental science, through which students engage with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world. The course requires that students identify and analyze natural and human-made environmental problems, evaluate the relative risks associated with these problems, and examine alternative solutions for resolving or preventing them. Environmental Science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry, and geography. College credit can possibly be earned with a qualifying score on an AP exam.

BIOLOGY A/B

Grade Level: 10

Integrated Science A and Integrated Science B

Students develop a conceptual understanding of Biology and Science Inquiry. A scientific inquiry approach uses concrete hands-on experiences that require students to develop and apply critical thinking skills. One trimester of his course focuses on the study of basic chemistry of life, scientific inquiry, genetics, and cellular level biology. The second trimester of this course focuses on the study of DNA, evolution, ecology, classification of species, and an introduction to the kingdoms of life.

AP BIOLOGY A/B/C

Recommended Grade Level: 10 - 12
Prerequisites: Integrated Science A/B or AP Environmental
AP Biology is an introductory college-level biology course. Students cultivate their understanding of biology through inquiry-based investigations as they explore the following topics: evolution, cellular processes, energy and communication, genetics, information transfer, ecology, and interactions. College credit can possibly be earned with a qualifying score on an AP exam.

ASTRONOMY A

Recommended Grade Level: 9 - 12
This course focuses on the study of basic astronomical principles, stars, planets, and galaxies.

CHEMISTRY I A

Grade Level: 11
Prerequisite: Integrated Science A/B
This course is a required course for all juniors. Chemistry I will expose the students to the fundamental concepts of chemistry and show how they relate to our everyday lives. Such topics as matter and its properties, atomic structure, periodic table, bonding, equations and mass relationships, gas laws, and solutions are included in both qualitative and quantitative investigations. This course closely follows the Kentucky Program of Studies and physical science Core Content. Chemistry I will enhance science literacy and emphasize the impact of chemistry in our society. Laboratory and hands-on activities will be performed.

CHEMISTRY II A

Recommended Grade Level: 11 - 12
Prerequisite: Chemistry I, Algebra II, Integrated Science A/B
This course is an elective science course and is taken by those students who have plans of entering into a health or science related career or major in college. Chemistry I must be taken before Chemistry II can be taken. Chemistry II will be a more in-depth course in the exploration of chemistry, and will build upon skills and concepts that are learned during Chemistry I.
Laboratories and hands-on activities will be performed.

AP CHEMISTRY A/B/C

Recommended Grade Level: 11 - 12
Prerequisite: Integrated Science A/B or Environmental Science and Biology A/B or AP Biology
This course provides students with a college-level foundation to support future advanced coursework in chemistry. Students cultivate their understanding of chemistry through inquiry-based investigations, as they explore topics such as: atomic structure, intermolecular forces and bonding, chemical reactions, kinetics, thermodynamics, and equilibrium. College credit can possibly be earned with a qualifying score on an AP exam.

PHYSICS A

Recommended Grade Level: 11 - 12
Prerequisites: Integrated Science A/B, Algebra II
This course is designed to give students an understanding of the fundamental concepts of physics. Much of this course is activity oriented to the study of mechanics, wave motions, sound waves, and magnetism. Students will experience engineering through required projects. This course is designed to help students see the use of physics in everyday life while developing problem solving skills.

FORENSICS A

Recommended Grade Level: 11 - 12
Prerequisite: Integrated Science A/B, Biology, and Chemistry I
This course is a problem-based inquiry course dealing with Forensic Sciences. The course involves police investigation techniques and procedures, crime scene investigation techniques, career choices, the study of forensic science (trace and physical evidence, DNA, developing a crime scene, etc.)

SOCIAL STUDIES

AFRICAN AMERICAN HISTORY A

Recommended Grade Level: 9 - 12
This African American studies course is designed to develop an understanding of the causes, character, and consequences of the African American experience and its influence on the world, the United States, and the African American community. Beginning with a historical, geographical, social, political, economic, and cultural understanding of the African continent, the course will provide a descriptive and corrective overview which will introduce the student to the study of the African and African American experiences.

AMERICA'S MODERN WARS A

Recommended Grade Level: 9 - 12

America's Modern Wars will provide a survey of American military engagements from World War I to present-day. The course will examine American military actions from political, economic, and social perspectives, to include the trials and tribulations of the soldier and the war's impact on the home front. Students will also examine America's role in the world today.

CIVICS A/B

Grade Level: 10

Integrated Social Studies is an introductory survey of the various areas of social studies including: Physical Geography, Civics, and early US History. It is designed to give the student exposure to different topics of social studies to prepare them for the more intensive studies that they will be participating in future courses.

WORLD HISTORY A/B

Grade Level: 9

The World Civilization course will focus on the current political, social, and economic world by showing the path from which it evolved. The course will emphasize the history of western civilization since 1500 while making connections to geographical influences and interactions.

HONORS WORLD HISTORY A/B

Grade Level: 9

The Honors World Civilization course will provide an in-depth focus on the current political, social, and economic world by showing the path from which it evolved. There will be an emphasis on critical analysis of primary sources and historical writings. Students will enhance their writing skills through general and specific assignments. The course will emphasize the history of western civilization since 1500 while making connections to geographical influences and interactions. Honors World Civilization is designed to prepare students for success in AP and Dual Credit courses.

US HISTORY A/B

Grade Level: 11

The United States History course is a capstone to the study of America's history. After a brief review, the focus is on the Reconstruction period to the present, looking at the forces that shaped and continue to shape political, economic, and social institutions and the impact of those forces on the development of the United States in the 20th and 21st centuries.

DUAL CREDIT US HISTORY 108 A

Grade Level: 11

This course will examine key political, economic, and social topics that have significantly influenced the American experience from Reconstruction through the contemporary era. Students will: identify major events, persons and ideas, as well as analyze significant issues of American history since 1865, and discuss historical controversies using critical analytical skills.

***GPA Requirement**

DUAL CREDIT US HISTORY 109 B

Grade Level: 11

This class will provide you an understanding of what it takes to become truly politically active. Being politically active does not necessarily mean you answer phones for a candidate, or march in political parades, or go door to door providing information on a candidate to solicit votes for them on Election Day, though they may. Being politically active means you become a disciplined and passionate "educated voter." Thus, this class will provide you with the history, foundation, organization, and means of execution that has become our American Government.

***GPA Requirement**

PSYCHOLOGY A

Recommended Grade Level: 10 - 12

Psychology is the systematic study of individual behavior and human mental processes. It studies both the cognitive aspects of the mind and the effective aspects of how humans feel about their experiences. How individuals perceive, learn, react, and relate to each other and to themselves are major aspects of psychology.

ABNORMAL PSYCHOLOGY A

Grade Level: 12

This course deals with a broad range of disorders, from depression to obsession-compulsion to deviation and many more. The course will also delve into famous persons of the past who have shown signs of the many disorders discussed in class.

AP US GOVERNMENT & POLITICS A/B

Grade Level: 10

AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students will study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among

political institutions, processes, and behavior. They will also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they will complete a political science research or applied civics project

HISTORY OF AMERICAN POPULAR CULTURE A

Recommended Grade Level: 11 - 12

Recommended Grade Level: 9-12

This course is built upon the premise that movies, music, fashion, and trends of each decade reflect the current political, economic, and social mood of the time. Also, while our nation's media is often produced for entertainment and profit (and sometimes art), each production is in fact a cultural artifact. This class will divide American history into decades and explore and evaluate the cultural trends of each, beginning with current times and work back to the war-torn era of the 1940's. Each unit will start with an overview of the decade in which students will study the political and economic conditions and events of the era, and evaluate the role they played in the development of popular culture of the day. Students will experience the decade's culture first-hand as they listen to the music, watch the movies, and explore the trends of each time period. Finally, students will evaluate the impact those trends still have on our society today and predict how our popular culture will impact future generations.

HOLOCAUST A

Recommended Grade Level: 11 - 12

The course will study steps leading to the Holocaust (1933-1945), the Holocaust itself, and the aftermath. The rise of Nazism is included.

GLOBAL ISSUES A

Recommended Grade Level: 11 - 12

Global Issues is a course designed to focus on events in the world that are making headlines. It will discuss the political, social and economic implications of these world events.

TEACHING AND LEARNING

THE LEARNING COMMUNITY (Dual Credit Option) A-2 Periods

Recommended Grade Level: 10 - 12

An entry level course into the educator preparation program leading to P-5, 5-9, 8-12, or P-12 teaching certification. All entry and exit procedures for educator preparation programs and orientation toward completion of exit and certification requirements are covered. This course also introduces students to national, state, and institutional requirements for certification regarding ethics, professionalism, clinical experiences, and pedagogy. Students will gain a knowledge of the Kentucky Department of Education Academic Standards and the Kentucky Teacher Performance Standards. In addition, explore various philosophies of education, historical, social, and ethical foundations of American education.

***GPA Requirement**

THE LEARNER - CENTERED CLASSROOM (Dual Credit Option) A-2 Periods

Recommended Grade Level: 10 - 12

The study of how children develop socially, physically, emotionally, and mentally from birth through adolescence identifying developmental patterns and implications on the learning process. It will also provide purposeful observations of the child.

***GPA Requirement**

INSTRUCTIONAL TECHNOLOGY (Dual Credit Option) A-2 Periods

Recommended Grade Level: 10 - 12

Explores IT as hands-on aids to teaching and learning. Included is instruction in the usage of various technologies with linked learning elements such as developmental and cognitive change in the classroom. Deals with pedagogical aspects of integrating technology in the classroom for teachers in all public school disciplines. Introduces prospective teachers to CU's Instructional Technology program, one committed to preparing P-12 teachers who know the content of their field, promote professional and pedagogical knowledge, demonstrate acquired skills, and apply them in such a way all students learn.

***GPA Requirement**

TEACHING DIVERSE LEARNERS (Dual Credit Option) A- 2 Periods

Recommended Grade Level: 10 - 12

This course is devoted to the study of the exceptional child who is developmentally exceptional in physical, cognitive, emotional or social areas.

***GPA Requirement**

MISCELLANEOUS

PEER MENTORING A/B/C

Recommended Grade Level: 12

Peer mentoring is an elective credit opportunity for seniors to work with freshmen teachers and students in John Hardin's building, and also students at the elementary and middle school feeder schools. Students assignments will be completed on-line in a blog format. There is an application process for this class.

PEER TUTORING A/B/C

Recommended Grade Level: 12

Prerequisites: Teacher recommendation and completed application

This course is for students who have an interest in working with students who have moderate and severe disabilities. The role of the peer tutor will be to provide academic assistance to the student with a disability, model appropriate social behavior, and demonstrate knowledge of the information through written assignments and/or verbal or written quizzes on modules taught during the semester.

CO-OP A/B/C

Recommended Grade Level: 12

Each CTE (Agriculture, Business, Family Consumer Science) Pathway has Co-Op/Internship opportunities for senior year.

COURSE GUIDE

****2024-2025 Course Offerings are subject to change**** as of 11-10-23

****Each EC3 Pathway has Co-Op/Internship opportunities for senior year. For qualification requirements and information, contact Ms. Ginny Coffman at EC3. ginny.coffman@hardin.kyschools.us or 270.769.7930**

Academy (11th) & Early College Pathways (12th)

Grade Level: 11th and 12th
Requirements: Application (Junior Application Information will be provided Fall 2023) Application Deadline December 2023. If Application Deadline has passed, students can turn in apps but will be placed on wait list; Senior Application Information will be provided Spring 2024; Student must meet ACT Benchmarks (ACT English 18, Math 22, Reading 20) and have completed Algebra II by end of 10th grade year.

Students who are interested in taking ECTC course work as a full time college student are eligible to apply. HCS students enrolled under the MOA receive classes at 50% the tuition rate. Administrative fees may be included and KCTCS rate is subject to change.

Aviation

Introduction to Aerospace & Aviation (Course 1)
1 Credit
Grade Level: 9th or 10th grade
The course covers the exploration of aerospace including, flight/aeronautics, aircraft maintenance, aeronautical engineering, and space. Students will learn about the forces that affect controlled flight, investigate properties of lift, and explore flight through a flight simulator. Students will also learn about aerospace standard materials, aviation safety, aircraft and wing design, and elements of a space mission resource system.

Aviation I (Course 2)
1 Credit
Grade Level: 10th or 11th Graders only who completed Intro to Aerospace
Prerequisite: Introduction to Aerospace A/B
In this course, students will take an in-depth look at flight in regards to flying an airplane. Topics will include FAA Ground School, Flight Maneuvers, Stalls, Turns, Cross Country Flight Planning, and Radios and Communications. In addition to flight, students will get a look at life in space. Students will investigate the effects of microgravity, radiation, and long duration spaceflight on the human body. This will include biological processes in the microgravity environment.

AVN 170 Dual Credit Formerly Aviation II (Course 3)
1 Credit
Grade Level: 11th grade or 12th (12th will take Aerospace engineering as well)
Prerequisite: Introduction to Aerospace A/B, Fundamentals of Aviation Science A/B
This course prepares students for flight training and aircraft operations. Students will gain knowledge and skills in airport systems, air traffic control procedures, aviation weather, air navigation, radio communication

procedures, and Federal Aviation Regulations (FAR's). This course covers the history of aviation law, federal regulation of air transportation and the role of state and federal government in aviation law including functions of the Federal Aviation Administration. Students will become familiar with aircraft power plants, principles of flight, aircraft systems/instruments, and science of weather.

AVN 170 Introduction to Unmanned Aircraft Systems. (3 College Hours)
1 Credit
This course provides an introduction to Unmanned Aircraft Systems (UAS). A history of UAS, typical applications, and an overview of regulations, airframe and power plant systems, sensors, ground control stations, airspace, weather, and other foundational skills needed to operate UAS in the National Airspace System will be covered.

Aviation (Course 4)
Grade Level: 12th Graders only Prerequisite: Introduction to Aerospace A/B, Aviation I A/B, Aviation II A/B
Eastern Kentucky University
AVN 150 (CRN 12581) – Introduction to Aviation (Dual Credit)
AVN 250 Air Transportation (Dual Credit)

Automotive Technology

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.

Basic Automotive (this class does not count towards the pathway credits, just a way to get students interested in the course as 10th grade only) .5 Credit
Grade Level: 10th only
Sophomores will learn principles of automotive technology and be introduced to concepts. Seniors will learn principles of leadership. Offered as a basic introduction to the automotive pathway, Automotive Workplace Basics and Principles will allow students with no knowledge of automotive technology a comfortable setting in which to learn basic functions of tools, day to day shop work, cleaning, deadlines and customer service.

Automotive Maintenance and Light Repair A & Lab
1 Credit
Grade Level: 11th or 12th

Automotive Maintenance and Light Repair B & Lab
1 Credit
Grade Level: 12th

Automotive Maintenance and Light Repair C & Lab
1 Credit
Grade Level: 12th

Automotive Maintenance and Light Repair D & Lab
1 Credit
Grade Level: 12th

Special Problems I (Auto)
.5 Credit
Grade Level: 12th
Prerequisite: Student must have successfully completed 2 credits in Automotive and enrolled in third credit.
***Teacher Approval Required**

Building & Construction Technology

Intro to Building and Apartment Maintenance
1 Credit
Grade Level: 9th, 10th, 11th
This course covers required safety practices in the shop and workplace; identification and use of hand tools used in the construction trades; identification of construction materials; interpretation of blueprints and/or drawings; and exposure to various mechanical and structural systems in a residential structure.

Residential Maintenance & Carpentry
1 Credit
Grade Level: 10th, 11th, 12th
Prerequisite: Intro to Building and Apartment Maintenance
This course covers the basic aspects of framing, roofing, window, door, and stair maintenance. The student will receive training in the proper use of ladders and in the handling and storage of building materials.

Residential Maintenance Wiring
1 Credit
Grade Level: 11th, 12th
Prerequisite: Intro to Building and Apartment Maintenance and Residential Maintenance & Carpentry
This course covers the basic aspects of electric theory, wire and cables, fixtures and devices, and troubleshooting and maintenance wiring.

Residential Plumbing AND HVAC Maintenance
.5 Credits EACH
Grade Level: 11th, 12th
Prerequisite: Intro to Building and Apartment Maintenance, Residential Maintenance & Carpentry or Residential Wiring
This course covers the basic aspects of clearing blocked drains, repairing leaks, repair and replacement of residential plumbing fixtures, and working with copper, plastic, and steel pipes.
AND This course covers the basic aspects of maintaining various heating, ventilating, and air conditioning systems in residential buildings.

Computer Science

Computer Programming

Industry Certifications

- Certiport IT Specialist - HTML and CSS
- Certiport IT Specialist - Java
- Certiport IT Specialist - Python
- Certiport IT Specialist - Network Security
- CompTIA Security +

*Course Sequence **(must complete 4 credits)***

- (optional) 060112 Digital Literacy A/B at home school (9)
- 110711 AP Computer Science Principles A/B at EC3 (9/10)
- 110230 Cybersecurity at EC3 A/B (11/12) **AND/OR** 110801 Web Page Development at EC3 A/B (11/12)
- 110251 Computational Thinking at EC3 A/B (12)
- (optional) 110919 Computer Science Internship A/B (12) *Teacher approval required

Network Administration

Industry Certifications

- IC3, GS6, Level 2 Digital Literacy
- CompTIA IT Fundamentals
- Certiport IT Specialist - Networking
- CompTIA Network +

*Course Sequence **(must complete 4 credits)***

- 060112 Digital Literacy A/B at home school (9)
- 110101 Computer Hardware and Software Maintenance A/B at EC3 (10)
- 110901 Introduction to Networking Concepts A/B (11/12)
- 110917 Internet Technologies at EC3 (11/12) **AND/OR** 110251 Computational Thinking at EC3 A/B (12)
- (optional) 110919 Computer Science Internship at EC3 (12) *Teacher approval required

Network Security

Industry Certifications

- IC3, GS6, Level 2 Digital Literacy
- CompTIA IT Fundamentals
- CompTIA Security +
- CompTIA Network +
- Certiport IT Specialist - Networking
- Certiport IT Specialist - Network Security

Course Sequence

- 060112 Digital Literacy A/B at home school (9)
- 110101 Computer Hardware and Software Maintenance A/B at EC3 (10/11)
- 110901 Introduction to Networking Concepts A/B (11/12)
- 110230 Cybersecurity at EC3 (11/12)
- (optional) 110919 Computer Science Internship at EC3 (12) *Teacher approval required

Web Development/Administration

Industry Certifications

- Certiport IT Specialist - HTML5 Application Development
- Certiport IT Specialist - HTML and CSS
- Certiport IT Specialist - JavaScript

Course Sequence

- 060112 Digital Literacy A/B at home school (9)
- 110917 Internet Technologies at EC3 A/B (10/11)
- 110801 Web Page Development at EC3 A/B (11/12)
- 110251 Computational Thinking at EC3 A/B (12)
- (optional) 110919 Computer Science Internship A/B (12) *Teacher approval required

Information Support and Services

Industry Certifications

- CompTIA IT Fundamentals
- Help Desk Institute: Customer Service Representative
- CompTIA A +

Course Sequence

- 060112 Digital Literacy A/B at home school (9)
- 110101 Computer Hardware and Software Maintenance A/B at EC3 (10/11)
- 110917 Internet Technologies A/B at EC3 (11/12)
- 110919 Computer Science Internship A/B (12) *Teacher approval required

Courses

AP Computer Science Principles
1 Credit
Grade Level: 9/10
Prerequisite: n/a
Possible College Credit: Pass the AP Computer Science Principles exam with a 3 or better
This course is an introduction to the central ideas of computer science, computational thinking, and how computing changes the world. The course includes computational and critical thinking skills and engages students in the creative aspects of the field. Students spend a significant amount of time learning the basics of programming and using the JavaScript programming language. Students will create apps and web-based programs and games. No prior programming experience is needed.

Computational Thinking
1 Credit
Grade Level: 12
Prerequisite: At least THREE credits in Computer Science in a single pathway
Industry Certification: CompTIA A+, IT Specialist Python
This course promotes an understanding of computer programming and logic by teaching students to think like a computer. It covers skills needed to develop and design language-independent solutions to solve computer-related problems. Instruction covers the development and design basics including the use of variables, control and data structures, and principles of command-line and object-oriented languages. Students will learn how to use Python to write programs for various purposes.

Computer Hardware and Software Maintenance
1 Credit
Grade Level: 10/11
Prerequisite: Digital Literacy OR AP Computer Science Principles
Industry Certification: CompTIA IT Fundamentals, IC3, GS6, Level 2/3 Digital Literacy
This course presents a practical view of computer hardware and client operating systems. It also covers computer hardware components; troubleshooting, repair, and maintenance; operating system interfaces and management tools; networking components; computer security; and operating procedures. Students will spend time programming, dissecting, and building computer systems.

Cybersecurity
1 Credit
Grade Level: 11/12
Prerequisite: At least TWO credits in Computer Science in a single pathway
Industry Certification: CompTIA Security +, IT Specialist - Network Security
This course introduces the tools and concepts of cybersecurity and encourages students to create solutions that allow people to share computing resources while protecting privacy. This course raises students' knowledge of and commitment to ethical computing behavior. Students will learn the components of cybersecurity and the role each plays in preventing, detecting, and mitigating vulnerabilities and attacks. Students will learn to program in Python.

Computer Science Internship (does not count toward pathway completion)
1 Credit
Grade Level: 12 (teacher recommendation required)
Prerequisite: At least FOUR credits in Computer Science in a single pathway AND teacher recommendation
This course will provide supervised work-site experience for high school students. Internship experiences consist of a combination of classroom instruction and field experiences. A student receiving pay for an intern experience is one who is participating in an experience that lasts a semester of longer and has an established employee-employer relationship. A non-paid internship affects those students who participate on a short-term basis (semester or less).

Internet Technologies
1 Credit
Grade Level: 10/11
Prerequisite: Digital Literacy OR AP Computer Science Principles
Industry Certification: Certiport IT Specialist - JavaScript
This course provides students with a study of traditional and emerging Internet technologies. Also covered are other topics including Internet fundamentals, Internet applications, Internet delivery systems, and Internet client/server computing. Internet Technologies provides a hands-on experience and programming in Javascript in an Internet environment.

Introduction to Networking Concepts
1 Credit
Grade Level: 11/12
Prerequisite: Digital Literacy and Computer Hardware and Software Maintenance
Industry Certification: CompTIA Network +, IT Specialist - Networking
This course introduces technical-level concepts of non-vendor-specific networking including technologies, media, topologies, devices, management tools, and security. Students will learn the basics of how to manage, maintain, troubleshoot, install, operate, and configure basic network infrastructure. Students will learn to program in Python.

Web Page Development
1 Credit
Grade Level: 11/12
Prerequisite: Digital Literacy and Internet Technologies
Industry Certification: IT Specialist - HTML5 Application Development, IT Specialist - HTML and CSS
This course introduces web pages through the use of HTML and CSS. Students use text and/or web editors to create web documents with various formats and page layouts, multimedia, tables, and forms. Students will learn to program in HTML and CSS.

Criminal Justice

****Criminal Justice Courses are taught at JHHS. Students from CHHS, JHHS and NHHS are eligible and bus transportation from each school is provided.**
These courses are an overview of the criminal justice system in the United State. This class will discuss the history and philosophy of criminal justice, ethical considerations, definition of crime, the nature and impact of crime, and overview of the criminal justice system including law enforcement, corrections and the court system. Focus is placed on understanding crime measurement, theoretical explanations of crime, response to crime, punishment, and current social and ethical issues related to the administration of justice in American society.

Introduction to Criminal Justice
1 Credit
Correctional Systems
1 Credit
Law Enforcement
1 Credit
Criminal Investigations
1 Credit

Culinary Arts

****Culinary Courses taught at EC3 are articulated credit through Sullivan University and Dual Credit Elizabethtown Community & Technical College**

Introduction to Culinary Arts (This is the same class as Foods and Nutrition, but designed for students that are wanting Culinary Pathway)
1 Credit
Grade Level: 9th-11th
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.

CUL 125 Sanitation and Safety (Culinary I)
Dual Credit with ECTC
1.5 Credit
Grade Level: 10th, 11th or 12th
Prerequisite: Introduction to Culinary Arts or Foods and Nutrition, *Advanced Foods A (Recommended)
Culinary Arts-ServSafe (This class is embedded with Culinary I)
This advanced course trains students about food-borne illness, how to prevent it and maintaining a safe facility. Students earn nationally accredited food safety certification from the National Restaurant Association. This course must be taken at the same time as Culinary I and is required before beginning Culinary II.

This college-level culinary 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 profession. This course is designed to provide training for employment in hospitality services in the area of food service. Career decisions and demands on family life are

explored as well as skills and concepts related to supportive services such as public relations, food and beverage operations, management techniques, and entrepreneurship.

CUL 105 Applied Introduction to Culinary Arts (Culinary II)
Dual Credit with ECTC and/or Articulated Credit with Sullivan University
1.5 Credits
Grade Level: 11th or 12th
Prerequisite: Intro to Culinary Arts (or Foods and Nutrition at home high school), Culinary I, ServSafe Certification
This college-level course is designed for students to resume progress in pursuing competencies in food productions 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.

Engineering—Project Lead the Way

Engineering I (IED) and Engineering II (POE) taken at home high schools

Electrical/Electronics Engineering (PLW 150 Dual Credit ECTC, 4 College Hours)
1 Credit
Grade Level: 11th RECOMMENDED
Prerequisites: Engineering I and II
Digital electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras and high-definition televisions. The major focus of the DE course is to expose students to the process of combinational and sequential logic design, teamwork, communication methods, engineering standards and technical documentation. This course is very focused on digital circuits, logic, math skills, analytical, is hands on with building circuits and designing circuits on computers. Students need an interest in electronics, computers (how they work), programming and electricity.

Civil Engineering (PLW 225 Dual Credit ECTC, 4 College Hours)
1 Credit
Grade Level: 12th
Prerequisites: Engineering I and II
Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects. This course would be the best general course after IED and POE, it's broad and includes many perspectives general STEM ed. Topics include--residential and commercial construction practices and CAD design. Civil Engineering is the broadest and most popular engineering field.

Mechanical Engineering (PLW 250 Dual Credit ECTC, 4 College Hours)
1 Credit
Grade Level: 12th
Prerequisites: Engineering I and II
Students answer the questions: How are things made? What processes go into creating products? Is the process for making a water bottle the same as it is for a musical instrument? How do assembly lines work? How has automation changed the face of manufacturing? As students find the answers to these questions, they learn about the history of manufacturing, a sampling of manufacturing processes, robotics and automation. The course is built around several key concepts: computer modeling, Computer Numeric Control (CNC) equipment, Computer Aided Manufacturing (CAM) software, robotics and flexible manufacturing systems. Students who

enjoy robotics will enjoy this course--programming robot arms etc., CNC programming, design, programming, and building automated assembly lines.

Engineering Capstone
1 Credit
Grade Level: 12th
Prerequisites: Engineering I and II
This is an engineering research course in which students will work in teams to research, design, test and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide and help the team to reach a solution to the problem. The team presents and defends their solution to a panel of outside reviewers at the conclusion of the course. The EDD course allows students to apply all the skills and knowledge learned in previous Project Lead The Way courses. The use of 3D design software helps students design solutions to the problem their team has chosen. This course also engages students in time management and teamwork skills, a valuable set for students in the future. This a senior project class. They will solve an Engineering problem and develop a tangible product. The course takes them through a guided process to do so. Design Process, to research, to design, to develop a prototype, test, package, and pitch product idea like "Shark Tank" TV program. Students will use all the skills they have learned in PLTW classes.

Health Sciences

HST 102 Health Care Delivery (Formerly Principles of Health Science)
***This is the first course in health science pathway**
1 Credit
Grade Level: 9-11
***Highly recommended 9th grade year**
****Required course for NAA 100 Nursing Assistant Skills, EKG, Pharmacy, Medical Administrative Assistant, Phlebotomy and Adv. Pre-Nursing Courses**
The course may be taken as dual credit through KCTCS. If taken as dual credit, the student will receive a grade on their high school transcript as well as their KCTCS college transcript. Students that take this in 9th/10th grade can use the Work Ready Scholarship to obtain the dual credit for free. If taken in 11th/12th grade, the student will have to use their KY Dual Credit Scholarship First. Additional dual credit details, course registration and acceptance of scholarship will take place once the student starts the course.

This course is introductory to health science technology allowing students to explore the many career opportunities in the healthcare field. The course is exploratory and offers instruction in basic health related skills and theory. Topics include the history of medicine, career exploration, human growth and development, legal and ethical responsibilities, intro to medical math, diets and nutrition, infection control, safety, geriatric care and the world of work.

Emergency Procedures
***This is to be taken with Med Term course**
.5 Credit
Grade Level: 10-11
****Required course for NAA 100 Nursing Assistant Skills, EKG, Pharmacy, Medical Administrative Assistant, Phlebotomy and Adv. Pre-Nursing Courses**

This course will focus on potential emergency situations. It is designed to promote an understanding of standard precautions necessary for personal and professional health maintenance and infection control. Upon successful completion of this course, the student will demonstrate necessary skills in First Aid and

Cardiopulmonary Resuscitation (CPR) and will be given the opportunity to take the completion examination as outlined by the sponsoring agency. The CPR written exam requires a passing grade of 84%.

AHS 115 Medical Terminology
<u>*This is to be taken with Emergency Procedures course</u>
.5 Credit
Grade Level: 10-11
****Required course for NAA 100 Nursing Assistant Skills, EKG, Pharmacy, Medical Administrative Assistant, Phlebotomy and Adv. Pre-Nursing Courses**
The course may be taken as dual credit through KCTCS. If taken as dual credit, the student will receive a grade on their high school transcript as well as their KCTCS college transcript. Students that take this in 9th/10th grade can use the Work Ready Scholarship to obtain the dual credit for free. If taken in 11th/12th grade, the student will have to use their KY Dual Credit Scholarship First. Additional dual credit details, course registration and acceptance of scholarship will take place once the student starts the course.

This course is an introduction to medical terminology used in clinical settings. The course is designed to assist students in interpreting doctors' orders, and for effective communication in the medical field. This course includes commonly used medical abbreviations and terminology referencing anatomy, health, disease, diagnostic procedures and pharmacology. Course may be taken as dual credit through KCTCS.

<u>Medical Math</u>
.5 Credit
Grade Level: 12th
Prerequisite: Algebra I A/B/C
***Note: Medical Math can be taken as actual class at EC3 to count for senior math class.**
This course teaches students medical math that will be used in the clinical settings. The course is designed to assist students in determining the proper dosage calculations that a patient is to receive, and the importance of calculating these dosages. Topics include drug measures, reading medication labels, and syringe calibrations, dosage calculations from body weight and body surface area.

<u>NAA 100 Nursing Assistant Skills I (Formerly Medicaid Nurse Aide)</u>
1 Credit
Grade Level: May enroll as an 11th <u>or</u> 12th Grader
Prerequisites: Principles of Health Sciences, Emergency Procedures, AHS 115 Medical Terminology,
Highly Recommended: Anatomy (Body Structures & Functions)
Total accepted students: 30 per trimester.
The course may be taken as dual credit through KCTCS. If taken as dual credit, the student will receive a grade on their high school transcript as well as their KCTCS college transcript. Students that take this in 9th/10th grade can use the Work Ready Scholarship to obtain the dual credit for free. If taken in 11th/12th grade, the student will have to use their KY Dual Credit Scholarship First. Additional dual credit details, course registration and acceptance of scholarship will take place once the student starts the course.

This course is designed for students who want entry-level training in one of the many occupational areas in the health care field. It includes instruction in basic skills common to a majority of health occupations as well as those tasks characteristic to specific patient care occupations. A satisfactory performance level in core competencies is required. Topics include introductory anatomy and physiology, Medicaid Nurse Aide theory and skills necessary to pass the MNA Exam, as well as work place principles. Students will also be involved in supervised clinical rotations related to the educational objectives in the area of pre-nursing. **Some of these clinical rotations will take place outside of school hours.**

Advance Pre-Nursing (KCTCS NAA 115)
1.5 Credits
Grade Level: 12th
Prerequisites: Completed NAA 100 Nursing Assistant Skills and passed the State Registered Nurse Aide (SRNA) Industry Certification.
Total Accepted: **20 per Teacher Approval based on work ethic.**
Provides knowledge and skills for nurse aides to assume the role and responsibility required in a variety of health care settings. Builds upon MNA 100 and prepares the student to perform basic nursing skills at an advanced level.

Medical Administrative Assisting
Prerequisites: Principles of Health Sciences, Emergency Procedures, AHS 115 Medical Terminology
Medical Office Procedures:
1 Credit
Grade Level: May enroll as an 11th or 12th Grader
This course provides a working knowledge of the duties required in a medical office. It includes professional and career responsibilities, interpersonal communication, administrative responsibilities, and financial administration.
Medical Administrative Assistant Internship:
1 Credit
Grade Level: 12th
This pathway prepares individuals, under the supervision of office managers and other professionals, to perform routine administrative duties in a medical, clinical, or health care facility/system office environment. Includes instruction in general office skills, data processing, office equipment operation, principles of medical record-keeping and business regulations, medical/clinical office procedures, and communications skills.

Clinical Medical Assisting
Prerequisites: Principles of Health Sciences (HST 102), Emergency Procedures, AHS 115 Medical Terminology, Medical Math
This pathway prepares individuals, under the supervision of physicians, to provide medical office administrative services and perform clinical duties including patient intake and care, routine diagnostic and recording procedures, pre-examination and examination assistance, and the administration of medications and first aid. Includes instruction in basic anatomy and physiology; medical terminology; medical law and ethics; patient psychology and communications; medical office procedures; and clinical diagnostic, examination, testing, and treatment procedures.
Medical Assisting Clinical Procedures:
1 Credit
Grade Level: 12th
Introduces clinical skills and techniques used in the physician's office for patient examination, diagnosis and treatment. Introduces concepts related to electronic health records (EHR). Presents principles and practical applications related to medical asepsis, infection control, vital signs, routine and specialty patient examinations, diagnostic testing, and treatments with an emphasis on OSHA regulations. This course follows the NHA Clinical Medical Assistant test plan. Medical Assisting is an advanced level course. Admission to this course will be at the instructor's discretion based on completion of certain health science pathways. Completion of EKG and Phlebotomy is required. Completion of Medicaid Nurse Aide and/or Medical Administrative Assisting is strongly encouraged.

Pharmacy Technician
1.5 credits
Grade Level: 12th **This course is limited to seniors in good standing chosen by a selection process based on work ethic.
Prerequisite: Principles of Health Sciences (HST 102), Emergency Procedures, AHS 115 Medical Terminology
Recommended Prerequisite: Medical Math, Highly Recommended Anatomy (Body Structures & Functions)
***Note: Medical Math will be a required course to be taken senior year with Pharmacy courses**
This course is an online and clinical course that prepares students for the Pharmacy Technician Certification Board Examination (PTCB) in order to obtain national certification. Instruction will consist of online modules and instructional videos followed by exams. Six modules will be presented throughout the session. Students will also be required to complete a minimum of 50 hours of clinical rotations at retail/hospital pharmacies. This practicum provides supervised on-the-job work experience related to the students' educational objectives in the area of pharmacy. **Some of the rotations will take place outside of school hours and students must provide own transportation.**

EKG Technician
1 Credit
Grade Level: 11th or 12th **This course is limited to students in good standing chosen by a selection process based on work ethic.
Prerequisites: Principles of Health Sciences (HST 102), Emergency Procedures, AHS 115 Medical Terminology, Highly Recommended Anatomy (Body Structures & Functions)
This course is prepares students for the EKG Technician Certification. As a Certified EKG Technician (CET), you'll operate machines that record the electrical activity of a patient's heart. EKG rhythms provide important data for the diagnosis of heart conditions. According to the National Health Association (NHA) as a CET, you may perform the following tasks: Set up and administer EKGs/stress tests; Prepare patients for Holter or ambulatory monitoring; edit and deliver final test results to physicians for analysis; schedule appointments; transcribe physicians' interpretations. Students will also be involved in supervised clinical rotations related to the educational objectives in the area of EKG. **Some of these clinical rotations will take place outside of school hours and students must provide own transportation.**

Phlebotomy Technician (Will most likely be a dual credit class, still working out details with ECTC)
1 Credit
Grade Level: 11th or 12th **This course is limited to students in good standing chosen by a selection process based on work ethic.
Prerequisites: Principles of Health Sciences (HST 102), Emergency Procedures, AHS 115 Medical Terminology; Anatomy (Body Structures & Functions) is highly recommended.
This course prepares students for the Phlebotomy Technician Certification. Phlebotomy Technicians are important members of the clinical laboratory team. New diagnostic techniques, clinical laboratory technology, and automated instruments have greatly increased the volume of – and demand for – medical laboratory testing performed by phlebotomy technicians. Phlebotomy technician graduates can work in hospitals, neighborhood health centers, labs, medical group practices, HMOs, public health facilities, and veterans' hospitals. Students will be involved in supervised clinical rotations related to the educational objectives in the area of phlebotomy. **Some of these clinical rotations will take place outside of school hours and students must provide own transportation.**

Body Structures and Functions or BIO 135 Dual Credit (Students are allowed to take this or Anatomy and Physiology) Students must take this or Anatomy and Physiology to finish the pathway)
1 Credit
Grade Level: 11th or 12th

Media Arts

Introduction to Media Arts
1 Credit
Grade Level: 9th, 10th, 11th
An introduction to and survey of the creative and conceptual aspects of designing media arts experiences and products, including techniques, genres and styles from various and combined media and forms, including moving image, sound, interactive, spatial and/or interactive design. Typical course topics include: aesthetic meaning, appreciation and analysis; composing, capturing, processing and programming of media arts products, experiences and communications; their transmission, distribution and marketing; as well as contextual, ethical, cultural, and historical aspects and considerations.

FLM 112 Filmmaking Story Board Through Production (Formerly Video Studio Fundamentals)
1.333 Credits
Grade Level: 10th, 11th, 12th
Prerequisite: Introduction to Media Arts, 2.0 GPA
Dual Credit with BCTC 4 college credit hours
Provides project-based instruction on basics of film production. Familiarizes students with directing, lighting, set designing, cinematography, and audio.

FLM 132 (Formerly Studio Directing)
1.333 Credits
Grade Level: 11th, 12th
Prerequisite: Introduction to Media Arts, FLM 112 (Formerly Video Studio Fundamentals), 2.0 GPA
Dual Credit with BCTC 4 college credit hours
This course provides experience in editing and promotion. Emphasizes preparation for entry-level positions in the industry.

FLM 190 Film Boot Camp (Formerly Advanced Studio Directing)
1 Credits
Grade Level: 11th, 12th
Prerequisite: Introduction to Media Arts, FLM 112 (Formerly Video Studio Fundamentals), FLM 132 Studio Directing, 2.0 GPA
Dual Credit with BCTC 3 college credit hours
This course covers the organization and setup of a film production in the form of a film "boot camp." Provides real world experience for students in the roles of Production Assistant, Assistant Director, Camera Assistant, and Grip, Cinematographer, Director of Photography, Producer and Director. Focuses on completion of multiple short films or a feature length production.

Welding

Blueprint for Welding
1 Credit
Grade Level: 10th or 11th
Note: This course is REQUIRED for student to continue in other welding courses
****Course is offered during summer school at EC3. Information will be available in spring.**
Introduction to welding, cutting processes, and related equipment. Basic setup, operation, and related safety are applied.

WLD 120/121 Shielded Metal Arc Welding
Dual Credit with ECTC
1 Credit
Grade Level: 11th or 12th

Prerequisite: Blueprint for Welding
Note: This course is REQUIRED for student to continue in other welding courses
These courses provide experiences in which students acquire the manipulative skills to do groove welds in all positions with backing. Students will learn the identification, inspection and maintenance of SMAW electrodes; principles of SMAW; the effects of variables on the SMAW process to weld plate and pipe; metallurgy. SMAW Fillet Lab: This course provides laboratory experiences in which the student acquires the manipulative skills to perform fillet welds in all positions. SMAW Open Groove Lab: This course is designed to build upon SMAW Fillet Lab. It offers the student the opportunity to advance skills in the practical aspects of vee-butt plate welding using SMAW.

****Cutting Processes**
Students do not sign up to take actual course on schedule
1 Credit
Grade Level: 11th or 12th
Prerequisite: Blueprint for Welding, WLD 120/121 SMAW
Note: Once students complete Basic Welding , SMAW , GMAW and/or GTAW and cutting processes project standards, they will be awarded a full credit for Cutting Processes on their high school transcript with a "Pass" grade.
Students will obtain a working knowledge of various cutting processes used by the welding industry. Skills will include, but are 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. Also included are oxy-fuel cutting, plasma arc cutting, exothermic cutting, air carbon arc cutting, shielded metal arc cutting, and mechanical cutting processes.

Gas Metal Arc Welding (GMAW)
1 Credit
Grade Level: 12th
Prerequisite: Blueprint for Welding, WLD 120/121 SMAW
These courses are 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 FCAW and SAW and metallurgy are also included. Students will learn 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. GMAW Fillet Lab: The lab course teaches the practical application and manipulative skills of Gas Metal Arc Welding and the proper safety precautions needed in this process. Both ferrous and non-ferrous metals will be covered, as well as various joint designs on plate in all positions. GMAW Groove Lab: The purpose of this course is to teach the method of operation and application of the gas metal arc welding process for welding groove welds in both ferrous and non-ferrous plate in all positions using both short and spray transfer where appropriate.

Gas Tungsten Arc Welding (GTAW)
1 Credit
Grade Level: 12th
Prerequisite: Blueprint for Welding, WLD 120/121 SMAW, GMAW
Students will learn 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; metallurgy and Plasma Arc Cutting. Fillet Lab: This lab experience 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 included.