



Ypsilanti STEMM Middle College Ypsilanti Community Schools

(Science, Technology, Engineering, Mathematics, and Manufacturing)

2020-21

Course Guidebook

Updated June 2020





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YCHS STEMM Middle College Overview

Mission

The mission of Ypsilanti STEMM Middle College is to prepare students for success in college, career, and life through mentor relationships and by providing real-world, STEM-based experiences.

Vision

The STEMM (Science, Technology, Engineering, Mathematics, and Manufacturing) Middle College offers a rigorous, relevant and technologically advanced learning experience for all students. We prepare students for success in college, career and life through mentor relationships. Businesses, community partnerships, and STEMM-based electives are used to create and incorporate real-world, relevant experiences in the learning process. Inquiry and project-based instructional best practices are implemented to ensure every student accomplishes their goals. In order to create a meaningful educational experience, we have established a system of shared responsibilities and collaboration, supported by the trust and respect of students, staff, and the community.

Middle College

In 2015 the STEMM Middle College transitioned to a Middle College partnering with Washtenaw Community College, where there are a number of STEMM-related pathways that earn certification in a variety of STEM fields. Students can earn up to 60 college credits as a part of our 5-year high school.

Core Values

Responsibility: We believe that in order to be contributing members of society, today's students must learn to make positive choices and take charge of their learning experiences.

Resilience: Students must be empowered to make choices to improve their futures and create resilience when faced with setbacks.

Respect: We believe that in a productive and prosperous society we must treat others in our community with respect, tolerance and with genuine concern for their well-being.

Diversity: We believe we will protect and preserve only what we love, love only what we know, and will know only what we learn. Therefore, it is imperative that we learn about and value all cultures in order to protect and persevere our world heritage.

Creativity and Innovation: We believe that in order to develop a positive educational environment, all stakeholders must work together to establish a safe, orderly and respectful atmosphere, where innovation, creativity and a positive self-image can be developed and nurtured.

Vibrant Family and Community Partnerships: We believe that it takes a community to educate a child, and that technology has expanded our community beyond all visible walls.

High Expectations for All Students: We believe in using rigorous, relevant and technologically advanced learning experience for all students. Through STEMM-based curriculum, collaboration and relevant work, students will make significant advances in their understanding of the world.

Student Voice and Empowerment: We believe that, in order to develop a meaningful educational experience, we must build and preserve a system of shared responsibilities and collaboration between the learner, their family, the community and staff. This requires establishing a high level of trust and respect between all participants.



Expectations

Participation:

Students are expected to participate in all classes on a regular basis. Attendance is of paramount importance in order to maintain a high level of trust between all participants in each school activity in which the student is involved. Along with attendance, students are expected to actively participate; engaging in discussions by listening to classmates and contributing on a regular basis to class discussions, being willing to help others and having an “on-task” behavior is necessary in order to have a meaningful educational experience.

Ethics:

Behavior inside and outside of the classroom should be professional and inspiring to those around you. You should never do anything that would embarrass yourself, your family or your school. You should give your best effort in all you do, including: classwork, homework, projects, group-work, extracurricular activities and community/service-to-learn projects. Doing less than your best is unacceptable behavior. Honesty is necessary 100% of the time. This includes ethical use of technology in all situations, both inside and outside of the classroom.

Use of Technology:

Cell phones, tablets, I-Pads, Internet, personal computers, YouTube, social media, DVD recordings, and other applicable technology should never be used in a way that shows disrespect towards others. Using any personal device while engaging in a discussion with others, during class or group lectures or discussions, or while engaged in classwork or a class project is unacceptable. It is expected that students will use technology in accordance to the core values we hold to be true (see core values). Technology should seamlessly enhance the students’ educational experience, not detract from the classroom environment or get in the way of the student’s education.

Homework/Classwork:

Students are expected to complete homework and classwork as assigned and in a timely manner. Families, students and staff must work collaboratively to ensure the students’ success.

Respect:

All participants in our program must show respect to each other and respect the facility, equipment, technology and the learning process. Treat others as you wish to be treated and treat the facility and equipment with the utmost respect. Students in our program should set an example for the rest of the student body.

Scholarship:

Students are expected to work to the best of their ability. Frustration is a part of learning; and students will realize that when they are frustrated, they are learning at a higher level than when they are completing tasks easily and without frustrations. When students are struggling in any academic or elective area, they will learn to seek resources to ensure their success. Part of becoming a scholar is learning how to overcome struggles and finding ways around “road-blocks” to their learning. Much work will be done to develop problem-solving skills, to enable them to attack tough problems and construct meaningful connections with their learning.



Ypsilanti STEMM Curriculum and Standards

Common Core Standards

The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. Teachers in the STEMM small learning community rely on the Common Core State Standards when they are deciding what to teach in each of their classes.

Understanding by Design

When teachers employ Understanding by Design, they see themselves as coaches whose purpose is to lead each student to mastery through continuous improvement. Students are provided with opportunities to learn and grow in a variety of ways, such as explaining, interpreting, applying, shifting perspectives, empathizing and self-assessing. The teacher uses the results of the student's performance to inform future curriculum and instruction. The teacher and students are engaged in a focused and sustained conversation to apply new knowledge to long-term problem solving.

Challenge Based Learning

Challenge Based Learning is an engaging, multidisciplinary approach that starts with standards-based content and lets students leverage the technology they use in their daily lives to solve complex, real-world problems. Challenge Based Learning is collaborative and hands-on, asking students to work with other students, their teachers, and experts in their communities and around the world to develop deeper knowledge of the subjects they are studying. Teachers in the STEMM small learning community apply Challenge Based Learning in order to provide students with authentic experiences that will lead them to mastery of course content and real-world skills.

FIRST Robotics Engineering Principles

The idea for the YCHS STEMM Middle College grew out of work with our FIRST Robotics Team 66. Using FIRST Principles, engaging our students in Engineering principles to design and compete in FIRST Robotic Competitions allowed us to design a highly competitive robotics program, from which our drive to build a STEMM Community arose. FIRST (For Inspiration & Recognition of Science and Technology) is the backbone of this Middle College. FIRST's mission is to show students of every age that science, technology, and problem-solving are not only fun and rewarding, but are proven paths to successful careers and a bright future for us all.



Ypsilanti Community High School Courses - [YCHS - ACTech Course Catalog](#)

Technology, Engineering, and Manufacturing Courses

Introduction to Engineering

This course introduces students to the engineering design process and its use to address societal needs by creating products, systems, and processes in order to solve problems or improve life. Students will practice applying the aspects of the design process in a series of pre-engineering activities and projects.

Engineering Applications

Engineering Applications will provide students with an overview of the practical uses of a variety of engineering applications. Topics covered include computer programming, robotics, Computer Aided Design (CAD), and 3-D printing

Advanced Engineering

This course expands on the engineering design process and integrates technology-oriented applications. Students will design and manage projects to obtain an original solution to a valid open-ended problem by applying the engineering design process. Course topics include working in teams to define real-world problems, document and apply research, develop solutions, build and test prototypes, and communicate solutions.

Creative Engineering

Prerequisites- Must have completed Introduction to Manufacturing

This course introduces students to the various methods used to process and transform materials. Processing techniques covered usually include cutting, drilling, milling, assembling, and finishing. The courses may also include an overview of management techniques in planning, organizing, and controlling various segments of the manufacturing process, including design, engineering, production, and marketing.

Introduction to Manufacturing

This introductory course introduces students to the various methods used to process and transform materials. Engineering principles will be used to explore aspects of technology, networking, modeling, maker studios, Six Sigma control techniques and packaging. Topics that will be explored include the influence of the Industrial Revolution on manufacturing, prototyping, workshopping and Green Design. The courses may also include an overview of management techniques in planning, organizing, and controlling various segments of the manufacturing process, including design, engineering, production, and marketing.

Computer Aided Design (CAD) and 3-D Printing

In this course students will learn about the design process from concept to creation. Students will use imagination and interest to guide the projects to create an interactive, student-driven, learning environment. Using CAD, students will design and build a wide-range of tools and parts used in manufacturing, including RC Vehicles and Robotics. Projects will use CAD software to design 3D parts which will be manufactured / machined with conventional machine tools, as well as with the use of 3D printers.

Coding

Coding is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun. The course takes a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. The course inspires students as they build their own websites, apps, games, and physical computing devices

Robotics

Using FIRST Principles, engaging our students in engineering principles to design and compete in various competitions. A variety of robotics-based projects will be used to show our students that science, technology, and problem solving are not only fun and rewarding, but are proven paths to successful careers and a bright future for us all.

College and Career Readiness/Support Courses

Academic Support

Designed to give each student the maximum opportunity to help him/her become successful in their educational progression, this course will: develop a positive attitude towards learning leading to an increase in desire, effort and success; develop 21st Century life and career skills by focusing on individual learning profiles, self-advocacy, and study skills necessary for academic success; develop their own decision-making patterns, skills and problem-solving techniques to evaluate their effectiveness for life-long learning.

Strategic Literacy

The purpose of this course is to help students reach increased literacy skills through the use of whole group instruction, small group study, independent reading, interactive technology applications, and writing. The majority of work in this class is individualized for each student. Our goal is to increase strengths in reading and writing applications to promote advancement in student's post-secondary pathways.

College Math Lab

The main purpose of this class is to ensure our dual enrolled (DE) students are prepared and able to successfully take college-level math classes. This may include working on Aleks modules to improve math assessment levels or receiving assistance in high school or college math classes. Secondly, it will be a time for DE students to update their Educational Development Plan (EDP) and any documentation needed for graduation requirements.

Math Courses

Algebra I

Algebra I includes the study of properties and operations of the real number system; solving and graphing first degree equations and inequalities; translating word problems into equations; exponential growth and decay, systems of linear equations, introduction to statistics, operations with and factoring of polynomials; and introductions to graphs of quadratic equations.

Algebra II

Algebra II topics include a review of linear equations and inequalities; operations with rational and irrational expressions; transformations, factoring of rational expressions; quadratic equations; solving systems of linear and nonlinear equations; graphing of functions; properties of polynomial equations; and properties of radical functions, investigating exponential and logarithmic growth and decay, and further work into data analysis and statistics.

Geometry

Geometry topics include transformations, concepts of congruence, similarity, angle relationships within parallel and perpendicular lines, proportions, rules of angle measurements of polygons, exploring dimensional measurement, area and volume of shapes, right triangle trigonometry, and data analysis and statistics.

Pre-Calculus

Pre-Calculus combines the study of Trigonometry Functions, Analytic Geometry, and Math Analysis topics as preparation for Calculus. Topics include the study of complex numbers; polynomial, logarithmic, exponential, rational, right trigonometric, inverses and graphs; trigonometric identities and equations; conic sections; mathematical induction; matrix algebra; sequences and series; and limits and continuity.

Personal Finance

Personal Finance applies these skills to consumer problems and situations. Applications typically include budgeting, taxation, credit, banking services, insurance, buying and selling products and services, home and/or car ownership and rental, managing personal income, and investment.

Financial Literacy

Financial Literacy includes the study of numeracy, financial literacy and vocabulary of Algebra I. Topics include numeracy using mathematical relationships to reason with numbers and numerical concepts, to think through the math logically, to have a repertoire of strategies to solve problems, and to be able to apply the logic outside of classrooms.

Math Support Class

This course will focus on mastery of the standards being taught in the regular math class. Opportunities will be provided for students to learn standards not previously mastered as identified through diagnostic assessment and progress monitoring. Opportunities will provide for students to preview math concepts that will be taught in the regular math class including pre-requisite skills and vocabulary. Students will also be engaged in *doing* mathematics, explaining their thinking, justifying their work, and using multiple representations of concepts to support their work in their regular math classes.

Science Courses

Earth Science

Prerequisites- Must have completed Biology. Earth Science offers insight into the environment on earth and the earth's environment in space. While presenting the concepts and principles essential to students' understanding of the dynamics and history of the earth, this course usually explores oceanography, geology, astronomy, meteorology, and geography.

Biology

Biology is designed to provide information regarding the fundamental concepts of life and life processes. This course includes (but is not restricted to) such topics as cell structure and function, ecology, general plant and animal physiology, and genetics.

Chemistry

Prerequisites- Must have completed Biology and be in at least 11th grade.

Students should also have completed Algebra I. Chemistry involves studying the composition, properties, and reactions of substances.

This course typically explores such concepts as the behaviors of solids, liquids, and gases; acid/base and oxidation/reduction reactions, atomic structure, and conservation of matter. Chemical formulas and equations and nuclear reactions are also studied.

Physics

Prerequisite: Completed Algebra I. Physics involves the study of matter and energy and the interactions between them. This course will explore the topics of motion, forces, energy, and electricity. Students will apply scientific and engineering ideas to design, build, and refine a device that minimizes the force during a collision and a device that works within given constraints to convert one form of energy into another form of energy. The study of physics may also include the examination of waves, sound, light, and magnetism.

Anatomy and Physiology

Prerequisite: Have completed Biology

Anatomy and Physiology presents the human body and biological systems in more detail. In order to understand the structure of the human body and its functions, students learn anatomical terminology, study cells and tissues, explore functional systems (skeletal, muscular, circulatory, respiratory, digestive, reproductive, nervous, and so on), and may dissect mammals.

Environmental Science

Prerequisites- Must have completed Earth Science (B or higher), Algebra I (C or higher), and be at least in 11th grade. Students will dive deeper into the Earth's four spheres (hydrosphere, atmosphere, biosphere, and geosphere) that they learned in Earth Science. During this course they will connect the four spheres to environmental problems/policies/factors to better understand anthropogenic and biogenic impacts on the planet.

Forensic Science (12th grade)

Prerequisite: Have passed Biology and Chemistry

Forensic science is a laboratory-based introduction to the analysis of crime scenes that explore the collecting and analyzing of physical evidence. This course will highlight topics in DNA, genetics, anatomy, chemistry, physics, entomology, botany, and investigative techniques. In addition, the ethical, legal, and social concerns surrounding forensics will be discussed. Process skills will include comparative analysis, critical thinking, deductive reasoning, interviewing, observation, organization, problem solving, research, communication, evidence collection, lab safety, and technical reading.

CSI (Elective: 1 semester; Meant for students who have not taken/will not be able to take Forensic Science due to Dual enrollment, RCTC, or credit recovery)

CSI-Fact or Fiction is an introductory course into the world of criminal science. This course serves as an introductory course to forensics for people who can't take the full year course. In this class, we will briefly touch on all of the aspects to be covered in depth during senior year science. This class covers a wide range of the background material needed to be successful in forensics, such as the psychology, history, and math needed to be a successful forensic scientist. This will be done through literature studies, examining past criminal cases, and mathematical practice. In order to be successful in this class, students must have completed algebra, have some knowledge of geometry, and have completed freshman level history and english classes.

Food Science (1 semester)

Prerequisites: Completed Biology and Chemistry

The fundamental biological, chemical and physical scientific principles associated with the study of foods; topics include food composition and nutrition, food additives and regulations, food safety and toxicology, food processing, food engineering, food biotechnology, product development and sensory evaluation.

Botany (1 semester)

Prerequisites: Completed Biology

Botany is a branch of Biology, and is the scientific study of all plant life and development. Botany covers a wide range of scientific disciplines that studies lower plants, higher plants, algae, and fungi including: structure, growth, reproduction, metabolism, development, diseases, and chemical properties and evolutionary relationships between the different groups. Students will also learn plant identification and taxonomy, and will make a large collection of plants. This class will make use of the school garden as well as indoor gardening techniques.



English Language Arts

English 9:

YCS partners with HMH (Houghton Mifflin Harcourt) to provide a rigorous and in-depth program of study designed to blend online and classroom learning for all K-12 students throughout our district using the Into Literature program. Through Into Literature, English 9 prepares students with a foundation in listening, speaking, reading, and writing through studies of literature and composition. Types of literature may include biographies, autobiographies, essays, short stories, dramas, speeches, and novels. Students explore literature, employing critical and analytical evaluation of literary works. Written expression lessons allow students to develop and demonstrate skills in composition, grammar usage, and the writing process. Students also make text to world connections through the selections and apply their ideas to their own life. Additionally, coursework prepares students for success on college entrance assessments such as the SAT and ACT. This course fulfills the requirements for one credit of ninth grade English for graduation.

English 10:

YCS partners with HMH (Houghton Mifflin Harcourt) to provide a rigorous and in-depth program of study designed to blend online and classroom learning for all K-12 students throughout our district using the Into Literature program. Building on the 9th grade curriculum, English 10 integrates listening, speaking, reading, and writing through studies of literature and composition. Types of literature may include biographies, autobiographies, essays, short stories, dramas, speeches, and novels. Students explore literature, employing critical and analytical evaluation of literary works. Written expression lessons allow students to develop and demonstrate skills in composition, grammar usage, and the writing process. Additionally, coursework prepares students for success on college entrance assessments. This course fulfills the requirements for one credit of tenth grade English for graduation.

English 11:

YCS partners with HMH (Houghton Mifflin Harcourt) to provide a rigorous and in-depth program of study designed to blend online and classroom learning for all K-12 students throughout our district using the Into Literature program. Throughout English 11, students will build upon the language arts skills gained in 9th and 10th grades to read and analyze both literary fiction and nonfiction and to write college-ready literary analysis and argument papers. Students will review and practice college- and career-ready speaking and listening skills. Both literary fiction and nonfiction will be introduced as vehicles for self-exploration and self-improvement, in conjunction with discussion and writing, as we read with a focus on social justice, stewardship, and sustainability. Additionally, a portion of this class will be focused on preparing students for college entrance assessments. This course fulfills the requirements for one credit of eleventh grade English for graduation.

English 12:

YCS partners with HMH (Houghton Mifflin Harcourt) to provide a rigorous and in-depth program of study designed to blend online and classroom learning for all K-12 students throughout our district using the Into Literature program. Throughout English 12, students will build upon the language arts skills gained in 9th through 11th grades to read and analyze both literary fiction and nonfiction and to write college-ready literary analysis and argument papers. Students will review and practice college and career ready speaking and listening skills. Under the theme of British Literature, both literary fiction and nonfiction will be introduced as vehicles for self-exploration and self-improvement, in conjunction with discussion and writing. The course's units include, but are not limited to *Beowulf*, Shakespeare's *The Tragedy of Hamlet*, and an individualized Black History Month project. This course fulfills the requirements for one credit of twelfth grade English for graduation.

Beginning ELD English

Beginning ELD English is a full year, one credit course that fulfills one of the four English credits required to graduate from Ypsilanti Community High School. The Common Core State Standards and the national TESOL standards are the basis for lessons that increase competency in social and academic English vocabulary, reading, writing, speaking, and listening. Learning activities will focus on the wide range of standards-based concepts and skills with a focus on building English language skills. Reading strategies and culturally literary fiction and nonfiction are included. This course fulfills the requirements for one credit of English for graduation.



Intermediate ELD English

Prerequisites- Must have successfully completed Beginning ELD English or by EL teacher recommendation. Intermediate ELD English is a full year, one credit course that fulfills one of the four English credits required to graduate from Ypsilanti Community High School. The Common Core State Standards and the national TESOL standards are the basis for lessons that increase competency in social and academic English vocabulary, reading, writing, speaking, and listening. Learning activities will focus on the wide range of standards-based concepts and skills with a focus on building English language skills. Reading strategies and culturally literary fiction and nonfiction are included. This course fulfills the requirements for one credit of English for graduation.

Intermediate ELD English

Prerequisites- Must have successfully completed Beginning ELD English or by EL teacher recommendation. Intermediate ELD English is a full year, one credit course that fulfills one of the four English credits required to graduate from Ypsilanti Community High School. The Common Core State Standards and the national TESOL standards are the basis for lessons that increase competency in social and academic English vocabulary, reading, writing, speaking, and listening. Learning activities will focus on the wide range of standards-based concepts and skills with a focus on building English language skills. Reading strategies and culturally literary fiction and nonfiction are included. This course fulfills the requirements for one credit of English for graduation.

ELD English 11/12

Prerequisites- Must have completed High Intermediate ELD English or by EL teacher recommendation. YCS partners with HMH (Houghton Mifflin Harcourt) to provide a rigorous and in-depth program of study designed to blend online and classroom learning for all K-12 students throughout our district using the Into Literature program. ELD English 11/12 utilizes this curriculum and integrates listening, speaking, reading, and writing through studies of literature and composition. Types of literature may include biographies, autobiographies, essays, short stories, dramas, speeches, and novels. Students explore literature, employing critical and analytical evaluation of literary works. Written expression lessons allow students to develop and demonstrate skills in composition, grammar usage, and the writing process. Additionally, coursework prepares students for success on college entrance assessments. This course fulfills the requirements for one credit of English for graduation.



Business

YCS @ Work

YCS @Work is the Ypsilanti Community High School internal and external Internship Program that allows all our students who meet the eligibility requirements of being enrolled in the YCS @Work Class to obtain a work-site placement in the community after career-scope, soft skills and business foundation skills are assessed.

Business Entrepreneurs

Business Entrepreneurs is the Ypsilanti Community High School Program that provides our students with the opportunity to develop their business ideas that impact YCHS and the community through acquiring and enhancing employability skills along with foundational business/marketing/hospitality skills through participation in programs such as YCS @ Work, DECA, Grizzly Store Retail Management, Fundraising, and developing student led signature projects: Shark Tank, Blaze the Stage, Grizzly Gear Monthly Raffle, Snack Shop, and Popcorn Sales.

DECA

DECA (**Distributive Education Clubs of America**) is an association of marketing/business/hospitality career interested students that encourages the development of business and leadership skills through academic conferences and competitions. Ypsilanti Community High School's DECA club was initiated in the 2018-2019 academic school year under the leadership of Markus Bevier (President), Shannon Phillpot (Vice President), Lesly Mejia (Treasurer), Kiarra Townsend (Secretary), and Olivia West (Sergeant At Arms) and 41 financial members. The DECA Club of 2019 – 2020 academic school year starts with newly elected President Le'Tia Davis and Vice President Deric Ryles and 21 financial members.

Grizzly Store

The Ypsilanti Community School Grizzly Store is where you will find signature Grizzly Gear from the district as well as student led initiatives. The Grizzly Store is managed by/for students. The Business Entrepreneurs students' creative ideas that benefit YCHS and the surrounding community are featured and sold in the Grizzly Store. Student Managers must pass the DECA retail test, soft skills in customer service, store keeping procedures, receipt completion and cash in/out. Le'tia Davis has been the school store Lead Manager from 2018-2020, Sidney Frye- Love is the Assistant Manager from 2018 – 2020, both having passed the DECA Retail Test with exemplary scores and supervise 2 to 4 student employees during lunch hours.

Social Studies

World History (Year Long Course - 1 Credit Required)

In this course we will trace major characteristics of human civilizations throughout the world, beginning with Ancient Greece and Rome, the Middle Ages, Scientific Revolution, the Renaissance and Reformation eras, the Enlightenment, as well as global interactions of the 16th century until the present by exploring the social, cultural, political, and economic developments throughout world civilizations. We will draw comparisons in order to illustrate the diversity and similarity among civilizations and in order to develop a global view of world systems.

United States History (Year long course - 1 Credit Required)

This course will examine the history of the United States from Industrialization through the Present. This course will involve a close examination of the implications and effects of the social, cultural, political, and economic developments that have shaped our nation's past including, but not limited to, the Progressive Era, the Great Depression, World War I and II, the Cold War, and the Civil Rights movements.

African American History A

(Offered Each Semester - 0.5 Credit Elective/Class can be taken out of sequence)

This course will look at an often-overlooked, yet incredibly important, portion of American history. In section A of the course, we will examine early facts and concepts that center around the discovery of early man in Africa and the rise of advanced African civilizations to the years of slavery in the United States (including the origins of the slave trade; antebellum plantation-life for slaves, changes in American slavery patterns, etc.).

African American History B

(Offered Each Semester - 0.5 Credit Elective/Class can be taken out of sequence)

This course will look at an often-overlooked, yet incredibly important, portion of American history. In section B of the course we will look at cultural issues that face African Americans and ultimately society as a whole. The course will, however, primarily focus on the cultural strides (as well as continuing struggles) of African-Americans from the 1900s to the present day. Focus areas will include: Impact of the 13th Amendment, Jim Crow Laws; landmark Supreme Court cases; the struggle for school integration, War On Drugs, Mass Incarceration; Black Lives Matter Movement, the History of Blackface, and Colorism.

Sports History

(Offered Each Semester - 0.5 Credit Elective/Class can be taken out of sequence)

History of Sports will offer students an insight into America's rich history through the eyes of athletics. Throughout the semester students will learn the history of the development of sports as an American pastime as well as a way to overcome racial, ethnic, and socioeconomic

barriers for individuals in all athletic arenas. This sport will view the creation of America's favorite pastimes of football, baseball, basketball, and hockey from its creation to its modern day. It will also highlight sports' crucial roles in overcoming significant social barriers in society. In this course students will analyze primary and secondary sources as well as films and other sources in order to understand athletics impact on our society.

Government (Offered in the Fall - .5 Credit Required)

Government is a required course for graduation and covers several aspects of government and will explore the origins of the American democratic system. In addition, students will learn how the constitution embodies the values and purposes set up by the founding fathers. The structure and function of the government will be analyzed on a national, state, and local level while showing how each level is interrelated. This will launch the class into discussing how constitutional values relate to other nations and world affairs. Throughout the course we will focus on how the people play an active role in government and the importance each citizen contributes to society.

Economics (Offered in the Spring - .5 Credit Required)

The economics content is necessary for the understanding and analysis of a wide variety of applications, including those involving individual and household choices, personal finance issues, business and entrepreneurial decisions, and public policy. Students analyze and study economic concepts and principles in three contextual areas: individual and household context, a business context, and a government or public context focused around four content areas: The Market Economy; The National Economy; the International Economy; and Personal Finance.

Life Survival Skills (Offered each semester - .5 Credit Elective)

The content of this elective course is student guided and project based. Throughout the semester students learn necessary life skills including personal finance, personal fitness and mental health, basic use of hand tools, basic cooking skills and safety, sewing and clothing repair, and car maintenance. Students are encouraged to pursue topics of interest within the curriculum. Lessons are taught both by the classroom teacher, as well as experts in the fields of interest for the class.

Physical Education Courses

LINK PE

This course is an adapted physical education class designed for students with physical, cognitive and/or other disabilities. Students will be provided with a quality physical education with personal goals as it's focus. Students will be paired up with a student mentor to help build locomotor skills, social skills, and other athletic concepts. Classes will take place in the main gym, the indoor pool, outdoors and at the track.

LINK PE Mentorship

Students in this class will be peer mentors for students with physical, cognitive and/or other disabilities. Mentors will be paired up with a mentee to help develop locomotor skills as well as social skills. Mentors are expected to participate in every activity and demonstrate quality behavior for their mentees. Class will take place in the main gym, the pool, outside and at the track.

LINK Health

This course was developed for students with cognitive disabilities and/or a need for special education services. All students will demonstrate basic core concepts of nutrition and physical activity, social and emotional wellness, sexuality education and the prevention of HIV/AIDS and other communicable diseases. They will also develop skills to resist alcohol, tobacco and other drugs, as well as basic first aid/CPR and safety procedures needed to demonstrate overall wellness. Through hands on activities and project based learning, students will apply decision making and social skills, set healthy life long goals and demonstrate healthy behaviors. Students will also be empowered to analyze diverse influences on their health and access valid health resources in their community.

LINK Health Mentor

This course is for students who are interested in mentoring students with cognitive impairments in the Health classroom. Students will be expected to work side by side with their mentees, helping them complete tasks and assignments as well as building social skills. Mentors will also be expected to complete their own Health. All students will demonstrate basic core concepts of nutrition and physical activity, social and emotional wellness, sexuality education and the prevention of HIV/AIDS and other communicable diseases. They will also develop skills to resist alcohol, tobacco and other drugs, as well as basic safety procedures needed to demonstrate overall wellness. Through hands on activities and project based learning, students will apply decision making and social skills, set healthy life long goals and demonstrate healthy behaviors. Students will also be empowered to analyze diverse influences on their health and access valid health resources in their community.

Yoga, Dance & Aerobics

This is an advanced class for students who already passed Physical Education with 75% or higher. It is intended for upper class-man as an advanced physical education elective. Students will be introduced to a variety of yoga styles, forms of dance and aerobic fitness components. Some yoga objectives implement personal health and wellness of the mind and body while integrating movement, meditation, and overall well-being. The dance component of this class offers a variety of rhythmic movements with an emphasis on creative expression and artistic growth. Other fundamentals of this

course include Zumba, stepping, core strengthening as well as a variety of dance methods and artistic forms of physical fitness.

Weight Training & Conditioning

This is an advanced class for students who already passed Physical Education with a 75% or higher. It is intended for upper class-man as an advanced physical education elective. This course is designed to give students the opportunity to learn weight training concepts and techniques used for obtaining optimal physical fitness. Students will benefit from comprehensive weight training and cardio-respiratory endurance activities. Students will learn the basic fundamentals of weight training, strength training, aerobic training, and overall fitness training and conditioning. The course includes both lecture and activity sessions. Students will be empowered to make wise choices, meet challenges, learn basic anatomy and develop positive behaviors in fitness, wellness, and movement activity for a lifetime.

Personal Fitness

Personal Fitness is focused on helping students build knowledge to adopt healthy fitness skills into their daily lives. Many different aspects of exercise will be implemented to help promote an active and healthy quality of life. Many daily activities include but are not limited to a variety of cardio, plyometrics, strength training and conditioning, aerobic, anaerobic exercises and many more. Students will be expected to participate and give their best effort on a daily basis. Students will improve their physical fitness, increase their heart rate and break a sweat.

Physical Education

Physical education gives students the ability to grow and develop the necessary motor skills to live healthy lives. The curriculum is designed around the Michigan Merit Curriculum and provides them with opportunities to develop social skills in group activities. This course also encourages students to set personal short term and long term goals based on their kinesthetic achievements. Emphasis is placed on individual and team sports, outdoor recreation, rhythmic/expressive movements and other health related fitness and conditioning activities that empowers the cardiovascular and muscular/skeletal system.

Lifetime Fitness (Physical Education 11-12)

Students will use their kinesthetic knowledge to set personal fitness goals, create fitness plans and learn innovative ways to lead a physically fit lifestyle. This course includes some topics related to cardiovascular endurance, rhythmic/expressive movement, individual/team sports, outdoor recreation, strength/conditioning, flexibility, and balance. Through teamwork as well as individual exercise, students will achieve overall wellness. This class is open to juniors and seniors.

Health

All students will demonstrate basic core concepts of nutrition and physical activity, social and emotional wellness, sexuality education and the prevention of HIV/AIDS and other communicable diseases. They will also develop skills to resist alcohol, tobacco and other drugs, as well as basic safety procedures needed to demonstrate overall wellness. Through hands on activities and project based learning, students will apply decision making and social skills, set healthy life long goals and demonstrate healthy behaviors. Students will also be empowered to analyze diverse influences on their health and access valid health resources in their community.

World Languages

Spanish 1

This introductory course is designed for students with little or no previous study of Spanish. Some students in class might have studied Spanish in middle school, but have not grasped some of the important structures of the language. This course teaches basic language patterns and vocabulary. Repetition and comprehensible input are important components of this course. Focus is on all four language skills listening, speaking, reading and writing. Culture is an integral part of the course and is introduced through the use of media, games, adapted readings and class discussions. In addition to written tests and quizzes, students may also be assessed by means of a variety of activities, many of them participatory in nature. Homework assignments are an integral part of this course; they reinforce concepts/skills introduced and explored in class, which enable students to participate in class in a meaningful way. Completion of homework assignments is a must. Active participation is required.

Spanish 2

This course is a continuation of the objectives and skills presented in Spanish I. It is designed to present materials in such a way that the student will derive pleasure and satisfaction in acquiring the language skills through topic based curriculum and comprehensible input with exposure in all four areas of language acquisition: listening, speaking, reading, and writing. The course will focus on daily life, healthy living, personal information, and travel and leisure to progressively enable the students to increase communicative proficiency, vocabulary, and give exposure to various language structures to increase overall language proficiency. Students will be exposed to different cultural perspectives, customs, art, food, and music of the countries where Spanish is spoken.

Visual Arts

Drawing

Drawing is an art class that concentrates on developing the principles of design while utilizing the elements of art. The basic building blocks of shape and form are emphasized while exploring different styles and movements in art. Students will learn everything from drawing using the grid method to designing a comic strip. They will incorporate design elements such as shading, perspective, proportion, texture, and value in all of their works.

Pottery

Pottery courses cover the same topics as Experiments in Art, but focuses on creating three-dimensional works out of clay and ceramic material. Particular attention is paid to the characteristics of the raw materials, their transformation under heat, and the various methods used to create and finish objects.

Community Art

Community Art will explore the way in which art integrates itself into the community by way of murals, sculptures, and performance. This class will create art in the community using different mediums while understanding what community art is already present. Particular attention will be paid to the different cultures and the rich community history of Ypsilanti.

Photography

Photography is an intensive introduction to photography, concentrating on composition, photo fundamentals (ISO, shutter speed, f/stop) and camera operation. Areas of investigation include exposure control, online storage, curating and presenting. A significant amount of time will be spent researching and discussing contemporary photographers as well as photo history. The end of the term will yield a firm working knowledge of the photographic process and a familiarity with many of its applications. Expectations of work outside of class include photographing events, such as athletics and dances, and ongoing engagement with Google Drive to review photos.

Commercial Photography

Commercial photography is a comprehensive look into the business of photography. A brief introduction to photography is given at the beginning of the semester followed by a thorough explanation and demonstration of the commercial studio equipment. No matter the subject, whether it is food, product or person, understanding and/or manipulating the light to achieve a desired look will be the outcome. Expectations of work outside of class include reaching out to and working with a business in the community to help market their product(s).

Yearbook

(Year Long Course - 1 Credit Required)

The yearbook course has been designed to provide students with the journalism skills and the ability to apply those skills to the actual production of the yearbook. Units of study include teamwork, responsibility, brainstorming, content, coverage, concept, reporting, writing, headlines, captions, editing, photography, typography, design, graphics, finances, yearbook campaigns, advertising and distribution. The work done by the yearbook staff is a real-world experience that results in the current volume of our school's yearbook. The publication strives to maintain a tradition of excellence in which the school and the community can take pride. Mastery of the goals and objectives educate staff members in all areas of publication production. ***Students must commit to both semesters of the course before signing up for the class.***

Vocal Music

CONCERT CHOIR

Concert Choir is the premier choir during the school day at YCHS. Open to men and women in 9th through 12th grades, Concert Choir members take their musical knowledge and singing ability to the next level. Members of Concert Choir will participate in festivals, competitions, and many extra-curricular community singing opportunities, including a yearly National Tour. In the past three years, the choir has toured Washington DC, New York City, and New Orleans. To remain in choir, students MUST participate and contribute to the rehearsal process.

Instrumental Music

PIANO

Piano class is offered to students in grades 9-12 of varying experience. Students may enroll in a piano class for multiple semesters. Students will progress from wherever they are, be it beginner or accomplished. Students will use sheet music to learn piano literature of many different genres; folk, classical, New Age, pop, etc. Students will have the opportunity to perform in a public piano recital.

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Students who are eligible for membership in the high school band must be:

- 1.) previously enrolled in band at the middle school level
- 2.) be recommended by one of the band directors
- 3.) have an interview and audition to get an accurate assessment of his/her musical skills for placement. Upon acceptance in the program, the parents will be notified of the policies and expectations of the band program. Generally, an ongoing

observation will follow during the year to make sure the student is meeting the minimum requirements of the class.

Symphonic Band: Grades 9, 10, 11, 12

Prerequisite: MS band participation or approval from the band director.

This class expands on middle school band curriculum and adds: style, interpretation, and improvisation.

This course is designed to teach self-discipline, teamwork and higher level thinking skills necessary to express one's self through music. It requires more of a commitment to excellence. It will include a balanced comprehensive study of music that develops skills in the psychomotor, cognitive and affective domain. Classroom activities are designed to develop elements of musicianship, including tone production, technical skills, intonation, music reading skills and the integration to other applicable disciplines. A number of public performances at formal concerts and/or band contests serve as the culmination of classroom instruction and musical goals. After school rehearsals, performances and activities are part of the course grade. These activities are an integral element that support and extend learning in the classroom.

Music Appreciation: Grades 9, 10, 11, 12

Prerequisite: None.

This course teaches multiple aspects of music, including; basic elements of music, music analysis, beat making, movie music, music and instruments from other cultures, Classical music history, and Contemporary music history. This course contains multiple music based writing assignments, soundtrack creation, and music composition.

Communication and Theater Arts

Drama

(Offered Each Semester - 0.5 Credit Elective/ prerequisite for those interested in Stage Performance)

A dramatic experience is intrinsic in human development. An introduction of dramatic games and exercises will be used as a way of sharpening imagination, building interpersonal relationships and most importantly strengthening individual identity.

Stage Performance

(Offered Each Semester - 0.5 Credit Elective)

Stage Performance will give students an opportunity to take some of the tools learned in drama and combine them with theatre concepts that will allow students to perform. This class will create a platform for the student voice to be heard on issues youth face.

Special Preparation Classes

University Preparation for Dual Enrollment Eligibility:

This class is designed to prepare students to meet the special rigor of a college class offered at the high school level. In order to dual enroll in a college class while still enrolled at ACTech, students must achieve final grades of "B" or better in the university prep class.

The class will focus on specific skills development for university success. These include meeting faculty and peer expectations, research paper writing, paraphrasing and summarizing, critical analysis, discussion, and fluency; lecture and note-taking skills, academic reading and writing, public speaking, vocabulary and grammar, and etiquette.

Freshman Secondary Education Skills

This course covers a wide range of academic professionalism concepts and skills that students need in order to be successful in high school. Class behavior, school conduct, class participation, keeping track of assignments and grades, communication skills, social conduct and etiquette, as well as other soft skills will be taught, practiced, and reinforced. This course is recommended for all freshmen.

Career and Technical Education (RCTC)

Culinary Arts and Bakery Science 2 year program (11th & 12th Grade)

Culinary Arts and Bakery Science is for the student who wants to study in the culinary arts, bakery science or hospitality industries. In this class, students have the opportunity to explore the exciting and developing professions in the culinary industry and bakery science industries using the National Restaurant Association ProStart curriculum.

Through the ProStart program, high school students can learn career-building skills and get a taste for success in an industry that is hungry for talent. The student will become acquainted with the best practices in all phases of the culinary and bakery industry.

Upon completion of this course, students will have a working knowledge of:

- Preparing for a successful career in the hospitality industry
- Preparing and serving safe food
- Preventing accidents and injuries
- Kitchen basics
- Foodservice equipment
- Nutrition
- Culinary essential skills
- Bakery essential skills
- Pastry/dessert basics
- Cake decoration basic
- Menu planning
- World foods
- Salads and garnishes
- Culinary math and costing
- Fruits and vegetables
- Controlling foodservice cost
- Planning and producing events
- Knife skills

Students can earn up to 7 industry recognized certifications. Some of the certifications can be used to articulate college credit and all can be helpful in getting a high paying job or possible promotions in the students' current job. The certificates that can be earned are ServSafe Food Handlers, ServSafe Allergens, ServSafe Safe Alcohol Service, ServSafe Managers, ProStart Year 1, ProStart Year 2 and ProStart National Certificate of Achievement.

Washtenaw Community College is a partner of RCTC Culinary Arts and Bakery Science and ProStart and therefore offers students up to 10 articulated college credits. Students must pass ProStart level 1 and 2 tests (years 1 and 2), then the ServSafe Managers test and have a B or better in RCTC to get these classes articulated. Juniors will be on

the right track for these credits however 1st-year seniors will be able to earn the benefits as well. These are the classes that will be articulated.

- Sanitation and Hygiene 2cr
- Culinary Principals 3cr
- Baking Science 2cr
- Fundamentals of Bakery 3cr
- All 10 credits will apply to a culinary OR bakery degree.

Along with WCC many other colleges offer similar amounts of articulation. Just a few of the culinary schools and colleges are The Culinary Institute go Michigan, Lake Michigan College. Northern Michigan University, The Culinary Institute of America, Johnson and Whales University, Sullivan University and many more.

Collision Repair Technology

RCTC Collision Repair Technology Is A NATEF certified training program. Students have the opportunity to develop their knowledge and skills through applied theory and hands-on shop projects. The Class is very hands-on with plenty of time spent in the lab repairing cars. Students will apply what they have learned in Auto Collision Repair on a daily basis. Students will have the ability to decide what area of auto collision repair they would like to pursue. Careers that students may enter include, but are not limited to: body repair technician, refinishing technician, automotive parts specialist, detail technician, damage estimator, collision repair mechanic, Structural Technician, and insurance adjuster.

Careers in this field are in high demand. Students have the opportunity to participate In an internship and Work-Based Learning where they will work at a local shop, get paid, and receive credit for attending class,

Students may earn a senior math credit as well as an applied arts credit.

Students may also elect to go on to a post-secondary school or college to pursue further education. Students may earn articulated credit with Washtenaw Community College, or Baker College.

Collision repair students will have the opportunity to participate in Career Technical Student organizations such as Skills USA, where they may compete against other Schools using their Technical training.

Automotive Technology



The Automotive Technology program is a NATEF Certified program designed to educate students to perform maintenance and light vehicle repair. The skill sets provide a learning experience and skillsets for a variety of jobs within the automotive industry, which are in high demand. This is accomplished with classroom instruction coupled with hands-on experience in the shop. Students will have access to shop cars and tools. Students will be exposed to ASE sections including: engine repair, suspension & steering, brakes, electrical/electronic systems, heating & air conditioning.

Seniors that return for a second year will build upon the foundation by applying the logic to the systems and a deeper understanding of how the systems work together.

Automotive Technology students can earn articulated credit with Washtenaw Community College or Baker College.

The program provides an opportunity to participate in the Career Technical Student organizations such as Skills USA, where they may compete against other schools.



Dual Enrollment Options – Washtenaw Community College

STEMM Middle College Planning Guide

Dual Enrollment Program of Study – which dual enrollment opportunity do you plan to pursue? Here are a few of WCC's more than 130 offered programs. See <https://www.wccnet.edu/learn/academic-pathways/> for the complete list.

- Automotive Technology
- Collision Repair Technology
- Culinary Arts
- Health Care Foundations
- Construction Technology
- Computer Systems Technology
- Engineering Design & Technology
- Traditional Dual Enrollment
- Machine Tool Technology
- Child Care Professional

For all options above a STEMM Middle College experience will include the following courses taken as a freshman and sophomore (for Junior, Senior and Year 5 ECA programs see specific program of study supplement):

Typical Year 1 & 2

9th Grade

- Introduction to Engineering (1 Semester)
- Biology
- Algebra 1
- ELA 9
- US History
- Physical Education (1 Semester)
- Health (1 Semester)
- Electives (1 Semester)

10th Grade

- Introduction to Manufacturing (1 Semester)
- Physics
- Geometry
- ELA 10
- World History
- Spanish I
- Electives (1 Semester)

***Modifications may be made if necessary, however, these modifications may affect the dual enrollment timeline.**



Typical Year 3

11th Grade - Full Time YCHS

Chemistry
Algebra 2
ELA 11
Government/Economics
Spanish 2
Elective (2 Semesters)

11th Grade - ½ Time Dual Enrolled

Chemistry
Algebra 2
Government/Economics
Spanish 2
ENG 111 (1 Semester)
COM 101 (1 Semester)
2 Other WCC Classes

Students will update their 5 Year Plan annually in their **Educational Development Plan (EDP)** to use as their guide for the specific program of study they wish to pursue.

Ypsilanti STEMM Middle College

Graduation Requirements Updated 2020

MEMCA Approved College Readiness Curriculum

4 Credits	Mathematics	<input type="checkbox"/>	Algebra I	STEMM high school level classes require 2 semesters (a full year).
		<input type="checkbox"/>	Geometry	
		<input type="checkbox"/>	Algebra II or Intermediate Algebra or WCC MTH 169	
		<input type="checkbox"/>	WCC MTH 125, 160, 176 or 181 or approved math experience for final year	
		<input type="checkbox"/>	* additional WCC MTH Course to meet MTA certificate requirements	
4 Credits	English	<input type="checkbox"/>	English 9	English 12 could be replaced with another WCC English Lit class with YCS permission
		<input type="checkbox"/>	English 10	
		<input type="checkbox"/>	English 11 or WCC ENG 111 & COM 101	
		<input type="checkbox"/>	English 12 or WCC ENG 111 & COM 101 or ENG 226*	
3 Credits	Science	<input type="checkbox"/>	Biology	    
		<input type="checkbox"/>	Physics	
		<input type="checkbox"/>	Chemistry	
0.5 EGR + 0.5 MNF = 1 Credit	Engineering & Manufacturing	<input type="checkbox"/>	STEMM Intro to Engineering or other Engineering/Robotics course	
		<input type="checkbox"/>	STEMM Intro to Manufacturing or other Manuf./Robotics/CAD course	
3 Credits	Social Studies	<input type="checkbox"/>	US History	
		<input type="checkbox"/>	World History	
		<input type="checkbox"/>	Economics/Government or or WCC PLS 112	
0.5 PE + 0.5 Health = 1 Credit	Physical Education & Health	<input type="checkbox"/>	PE or WCC DAN, PEA, YOG or Marching Band for 1 year	
		<input type="checkbox"/>	Health	
2 Credits	World Language	<input type="checkbox"/>	World Language (2 courses in same language) 1 HS year = 1 WCC semester	
		<input type="checkbox"/>	Or 1 Course AND Technical Course in final year	
1 Credit	Visual, Performing and Applied Arts	<input type="checkbox"/>	Art, Band, Choir, Drama or WCC 100-level or higher course in Animation, Art, Communications, Drama, Dance, Graphic Design, Music, Photography, Video that fulfills EDP Plan / WCC Certification	
*	Online Learning Experience	<input type="checkbox"/>	Blackboard/Google Classroom Use, Online Course, or Blended Online/Classroom Course	
≥ 15 College Credits	College Credits	<input type="checkbox"/>	15 or more approved WCC or MIAT credits at a grade of "C" (2.0) or above*	
Part of Student EDP	Approved College Certificate or Associates Degree	<input type="checkbox"/>	Approved WCC Associates Degree and/or WCC or MIAT Technical Certificate or MEMCA** Certificate	
*	Grade Point Average	<input type="checkbox"/>	College Coursework will only be applied to graduation progress if a Grade of "C" or higher is earned	
**	5th Year Senior Project	<input type="checkbox"/>	To meet the YCS Board requirements for a senior project, all 5th year graduating students will complete the Senior Project as part of their early college experience.	
***	MEMCA Certificate	<input type="checkbox"/>	To earn a MEMCA Certificate students must complete all high school graduation requirements , a minimum of 15 transferable college credit hours* (non-remedial courses) and 100 hours of verified community service or 40 hours of verified career exploration/internship or 70+ hours combined.	
<i>Some courses may be modified, reduced or eliminated based on approved coursework in an Educational Development Plan.</i>				
25 high school or equivalent credits + ≥15 college credits + Certification or Associates Degree (for MEMCA Certificate see above***)				