

## ENGLISH LANGUAGE ARTS

### English 9

**REQUIRED** English 9 is a required course designed to prepare students to be college and career ready by teaching writing, reading, speaking, listening, and language according to the Common Core State Standards. The course focuses on a variety of thematic units that incorporate reading multiple genres of literature and informational texts, introducing students to works that span cultures and centuries. Students will build their knowledge of language by reading increasingly complex texts. Students will be expected to use the writing process to write for multiple audiences and purposes.

### English 10

**REQUIRED** English 10 is a required course designed to prepare students to be college and career ready by teaching writing, reading, speaking, listening, and language according to the Common Core State Standards. The course is an in-depth study of American Literature, including classic and contemporary novels, poetry, drama, essays, and important U.S. documents. Students will be expected to use the writing process to write for multiple audiences and purposes, with an emphasis on literary analysis.

### English 11

**REQUIRED** English 11 is a required course designed to prepare students to be college and career ready by teaching writing, reading, speaking, listening, and language according to the Common Core State Standards. The course focuses on the reading, interpretation, and analysis of British Literature, including dramas, novels, poetry, and informational texts, with the goal of gaining a deeper understanding of the English language and world in which we live. Students will be expected to use the writing process to write for multiple audiences and purposes.

### English 12

**REQUIRED** English 12 is a required course designed to prepare students to be college and career ready by teaching writing, reading, speaking, listening, and language according to the Common Core State Standards. Active reading strategies and critical thinking will be used to interpret and analyze classic and contemporary literature and informational texts, which are organized in a variety of thematic units. Students will be expected to use the writing process to write for multiple audiences and purposes. Students will demonstrate proficient use of technology and online tools.

### Theater

Grades 9-12 — (semester) SUBJECT TO AVAILABILITY

*Theater Class* is an intensive study and performance of a full-length play, which includes analysis, acting, set production, sound, lighting, make-up, and costumes. There will be some evening and weekend rehearsals in December and January. Attendance at all three performances in January is mandatory.

### Communications

Grades 9-12 — (semester) SUBJECT TO AVAILABILITY

*Communications Class* is a study of verbal and non-verbal communication. The course will focus on giving speeches, making presentations, using and recognizing rhetorical appeals, creating clear discourse, and participating in professional conversations.

### Advanced Placement (AP) English Literature and Composition

Grade 11 or 12 — *Prerequisite: English 10 -- Subject to department approval. Recommended for grade 12.*

AP English Literature engages students in the careful reading and critical analysis of literature. The course includes intensive study of representative novels, short stories, and poems from various genres and periods, concentrating on works of recognized literary merit. Students will learn how to read literature closely through the use of the following methods: experiencing literature, interpreting literature, and evaluating literature. Writing is an integral part of the course. The course focuses on writing essays about prose and poetry in several forms (e.g. analytical, expository, and argumentative essays). Students are expected to take the AP English Literature and Composition exam for possible college credit. Summer reading is required.

### Advanced Placement (AP) English Language and Composition

Grade 11 or 12 — *Prerequisite: English 10 -- Subject to department approval. Recommended for grade 11.*  
AP English Language engages students in the careful reading and critical analysis of prose written in a variety of rhetorical contexts and for various purposes. The course includes intensive study of representative works, concentrating on texts that will encourage the students' critical thinking and civic engagement. Students should be familiar with reading nonfiction texts in order to understand the author's intent. Writing is an integral part of the course. The course teaches the students to write in several forms (e.g. narrative, expository, argumentative essays) about a variety of topics (e.g. public policy, popular culture, current events, and personal experiences). Students taking this course should possess fundamental skills in research, analysis, and argument. Students are expected to take the AP English Literature and Composition exam for possible college credit. Summer reading is required.

## SCIENCE

### Physical Science

Grade 9 – *REQUIRED FOR GRADUATION*

Physical Science is an extension of physics and chemistry principles introduced in elementary and middle school. This course is intended to provide a strong foundation for courses in biology, chemistry and physics by providing a better understanding of our physical world. Topics covered include science procedures, experimentation, motion, forces, energy, heat, work, machines, electricity, phases of matter and chemical reactions. Each marking period, students are required to demonstrate the practical application of various science concepts in the assigned Quarter Project.

### General Biology

Grade 10 – *REQUIRED FOR GRADUATION*

The General Biology course is aligned with the state curriculum, and is designed to provide the student with a well-rounded analysis of science relating to life. Students will experience Biology through various methods including lectures, inquiry based laboratory investigations, unit projects, hands-on activities, and an independent research project. Students will explore diverse concepts, among which are The Scientific Method, The Chemistry of Living Organisms, Living Cells and how they function, Genetics, Evolution, Ecology, and Biodiversity. This course is also intended to develop a student's observational skills, study habits, and critical thinking abilities.

### General Chemistry

Grades 10-12 - *MEETS GRADUATION REQUIREMENT - Prerequisites: Physical Science and Algebra I*

The five Standards in the Chemistry curriculum are 1) Inquiry, Reflection, and Social Implications; 2) Forms of Energy; 3) Energy Transfer and Conservation; 4) Properties of Matter; and 5) Changes in Matter. This study consists of theory, problem solving and experimentation in the following areas: measurement, classification of matter, atomic theory and structure, periodic table and chemical bonding, nomenclature, reactions and equations, stoichiometry, gases, the condensed states, solutions and the aqueous solutions of acids/bases/salts.

### Anatomy & Physiology

Grades 11-12 - *Prerequisite: General Biology/General Chemistry Recommended*

This course is designed for students who want to develop a better understanding of the human body. Increase your awareness and appreciation of the miraculous and delicate systems that maintain life, and the complex wonders that occur each day within your very own body. Along with serving as a proven, excellent primer for a college anatomy and physiology course, this course will give insight into the importance of making healthy choices throughout life. Laboratory procedures include comprehensive dissections and modeling activities to reinforce each unit. You will also participate in an actual lecture and laboratory exercise at Michigan Technological University.

### Advanced Placement (AP) Chemistry

Grades 11-12 - *Prerequisite: General Chemistry and Approval of Department*

AP Chemistry is designed to be the equivalent of the general chemistry course usually taken during the first year of college. Topics include: stoichiometry, gases, solutions, kinetics, thermochemistry and thermodynamics, chemical equilibrium with an emphasis on aqueous equilibria, electrochemistry, atomic and molecular structure including the effect of molecular geometry on the properties of solids and liquids, nuclear chemistry and an introduction to organic chemistry. The course performs labs weekly in an extended class period by working through the lunch period. The AP Chemistry Exam is given in the spring for possible college credit.

## **Advanced Placement (AP) Biology**

Grades 11-12 - *Prerequisite: General Biology, General Chemistry and Department Approval*

*Anatomy and Physiology recommended*

AP Biology is designed to be the equivalent of a college freshman biology course. This course emphasizes the importance of self-discipline and motivation in the development of study habits for higher level learning and thinking. Using the curriculum of general biology as a foundation, students will pursue the subject material at a much deeper level. Laboratory exercises and evaluations are designed to reflect an understanding of the relationships between all areas of biology, rather than just a recall of facts. The AP Biology examination at the end of the year will allow students an opportunity to earn college credit in the field of biology.

## **Physics**

Grade 12 - *Prerequisite: Algebra II; underclassmen who have completed Pre-Calculus may petition to take*

*Physics - MEETS GRADUATION REQUIREMENT*

Physics is the study of matter and energy, and the interactions between the two. This class emphasizes problem solving skills while exploring theory and experimentation in Physics topics. The four Standards in the Physics curriculum are 1) Inquiry, Reflection, and Social Implications; 2) Motion of Objects; 3) Forces and Motion; 4) Forms of Energy and Energy Transformations. Specific topics include motion, forces, vectors, projectile and circular motion, momentum, work and energy. Not sure if you should take Physics? Please check out the "Top 10 Reasons you should take Physics" [here](#), and the "7 Myths about High School Physics" [here](#).

## **Environmental Science**

The study of interrelationships between human activities and the environment. Throughout this course core biology, physical science, chemistry, and earth science concepts will be reinforced and incorporated into real-world lessons and place-based activities. Students will investigate the impact of various anthropogenic activities on the atmosphere, geosphere, hydrosphere, and biosphere as well as explore practices of sustainable living and resource management

## **MATHEMATICS**

Calculator needs: All math students need a scientific calculator. Students in Algebra II, Functions, Statistics and Trigonometry and AP Calculus need a graphing calculator.

## **Algebra I**

Grade 9 — *REQUIRED* — *Prerequisite: Transition Mathematics or equivalent*

The Eight Common Core Practices that Algebra I will cover are:

- 1) Make sense of problems and persevere in solving them.
- 2) Reason abstractly and quantitatively.
- 3) Construct viable arguments and critique the reasoning of others.
- 4) Model with mathematics.
- 5) Use appropriate tools strategically.
- 6) Attend to precision.
- 7) Look for and make use of structure.
- 8) Look for and express regularity in repeated reasoning.

## **Algebra II**

Grades 9-12 — *Prerequisite: Algebra I and Geometry*

The ten Standards in the Algebra II curriculum are 1) Reasoning about Numbers, Systems, and Quantitative Situations; 2) Calculation, Algorithms, and Estimation; 3) Measurement and Precision; 4) Expressions, Equations, and Inequalities; 5) Functions; 6) Mathematical Modeling; 7) Univariate Data-Examining Distributions; 8) Samples, Surveys, and Experiments; and 9) Probability Models and Probability Calculation.

## **Geometry**

Grades 9-12 — *Prerequisite: Algebra I — REQUIRED*

The content of the course includes the following: "Points and Lines," "The Language and Logic of Geometry," "Angles and Lines," "Congruence Transformations," "Proofs Using Congruence," "Polygons and Symmetry,"

“Applications of Congruent Triangles,” “Lengths and Areas,” “Three-Dimensional Figures,” “Formulas for Volume,” “Indirect Proofs and Coordinate Proofs,” “Similarity,” “Similar Triangles and Trigonometry,” and “Further Work with Circles.” Throughout the course, students will focus on the following standards for mathematical practice: 1) make sense of problems and persevere in solving them, 2) reason abstractly and quantitatively, 3) construct viable arguments and critique the reasoning of others, 4) model with mathematics, 5) use appropriate tools strategically, 6) attend to precision, 7) look for and make use of structure, 8) look for and express regularity in repeated reasoning. For more information, please visit:  
<http://ucscmp.uchicago.edu/secondary/curriculum/geometry/>

### **Pre-Calculus**

*Prerequisite: Algebra I, Algebra II and Geometry with C's or better*

Pre-Calculus builds on student understanding of functions and mathematical models of real-world phenomena. Course material is presented in four ways: graphically, algebraically, numerically and verbally. The course contains units on functions and math models, periodic functions and right triangles, applications of trigonometric and circular functions, trigonometric function properties, identities, and parametric functions, properties of combined sinusoids, systems of matrices, and discrete mathematics and probability.

### **Project STEM**

Grades 11-12

*Prerequisite: Geometry*

Project STEM is a project based science, technology, engineering, and math class. The course content consists of the following:

- Geospatial Tools which includes geographic information systems, global positioning, and remote sensing
- Engineering Design Process
- Bridge Design using Computer Aided Design (CAD) and a state competition
- 3D Design and Printing
- Computer Coding

### **Fundamentals of Personal Finance**

Less than half of high school seniors qualify as financially literate, and more than 7 million borrowers are in default on student loans for college. Students are facing tremendous financial challenges without the basic knowledge needed to thrive in today's economy. This course will change your financial future and set you on a path to win with money, allowing you to change the way you look at money forever. You will be empowered, equipped, and entertained while building confidence in your own financial decision-making.

This course is open to high school seniors and is a unique learning environment in which you learn from a true financial professional, Dave Ramsey through his high school curriculum. The course is also a blended learning course in which technology is used every day. Some of the topics covered include: Saving, Budgeting, Debt, Stock Market, Insurance, etc. It's more than just another course in high school... it's hope for the future.

### **Advanced Placement (AP) Calculus AB**

Grade 11-12 — *Prerequisite: Functions, Statistics and Trigonometry*

This is a full-year college-level course which culminates in students taking the AP Calculus AB Exam for possible college credit. Topics covered are Functions, Graphs, and Limits, Derivatives, Integrals, and Polynomial Approximations and Series.

## **SOCIAL STUDIES**

### **American Government**

(semester) — Grade 11-12 — *REQUIRED* — *Prerequisite: U.S. History*

Students will gain a better understanding of the processes of government, examine the problems faced by Americans today, and gain an understanding of the rights and responsibilities of citizens under the American system of government.

### **Economics**

(semester) — Grade 11-12 — **REQUIRED** — *Prerequisite: U.S. History*

During this course, students will be introduced to microeconomics and concepts such as supply, demand, and market equilibrium. Students will be introduced to macroeconomics and concepts such as GDP, GNP, unemployment rates, as well as fiscal and supply side policies.

### **United States History**

Grades 10 — **REQUIRED**

Students will study the events which have shaped the United States. The major focus will be from the latter 1800's to the present. Some of the topics covered are: the Progressive Era, the World Wars, the great Depression, the Cold War, and the Civil Rights Movement. Students will also learn about the Core Democratic Values, the U.S. presidents and work with the map of the United States. In addition, students will be taking part in community involvement projects throughout the school year.

### **World History and Geography**

Grade 9 — **REQUIRED** — Class of 2021 and later

World History and Geography will take a comprehensive look across different scales of time and place, starting from the beginnings of human history all the way through to modern times. Students will compare within and among regions & societies through time, study geographical and historical commonalities and patterns, analyze the impact of demographic, technological, environmental & economic changes on people around the world, and put together cause and effect of these changes. Students will study all the regions of the world and the major eras of world history.

Era 1: The Beginnings of Human Society

Era 2: Early civilizations & Cultures and the Emergence of Pastoral Peoples

Era 3: Classical Traditions, World Religions & Major Empires

Era 4: Expanding & Intensified Hemispheric Interactions

Era 5: The Emergence of the 1<sup>st</sup> Global Age (15<sup>th</sup>-18<sup>th</sup> Centuries)

Era 6: An Age of Revolutions (18<sup>th</sup> Century – 1914)

Era 7: Global Crisis and Achievement (1900-1945)

Era 8: The Cold War and its Aftermath (the 20<sup>th</sup> Century since 1945)

Contemporary Global Issues

### **Sociology**

Grades 9-12 — (semester or full year) **SUBJECT TO AVAILABILITY**

Sociology deals with the scientific study of group behavior. Therefore, it covers a wide range of topics. The first semester consists of learning about culture, social interaction, deviance, and social stratification. The second semester consists of learning about social class in the U.S., global stratification, gender, race, ethnicity, politics, family, religion, education, and sexuality. The class employs a wide variety of teaching techniques such as discussion, group work, presentations, debates, artwork, mock trials, and lecture. Students will study the changes which are taking place in our society and how these often lead to social problems.

### **Political Science**

Grades 11-12 — (semester) **SUBJECT TO AVAILABILITY**

This one semester class focuses on the political theory behind some of the world's most historically significant political systems, including democracy, communism, socialism, and fascism. We will examine primary authors such as John Locke, Karl Marx, and Thomas Hobbes, as well as the historical impact of each. The class is designed to be interactive, with class discussion and frequent debates being an important piece of the curriculum.

### **Current Events**

Grades 9-12 — (semester) **SUBJECT TO AVAILABILITY**

This one semester class focuses on the events that are shaping the world around us. We will utilize print, video, and online resources to discuss, interpret, and evaluate current events as they unfold. It is designed to be timely, focusing on the most recent events, as well as interactive - class discussion and frequent debates being an important piece of the curriculum.

### **World Foods**

Grades 9-12 — (semester) **SUBJECT TO AVAILABILITY**

Students will learn to cook dishes from various regions of the world, such as southeast Asia, Europe, and Latin America. The course will also look at how and why various cooking styles and ingredients are used according to the geography and history of the area. Students will learn cooking and baking skills, as well.

## **COMPUTERS**

### **Advanced Computer Applications**

(full year) Grades 9-12

A recent study by the International Data Corporation (IDC) revealed that the number two most required skill for high-growth, high-wage occupations is Microsoft Office Skills. In this full-year course, students will be provided the opportunity to earn industry recognized Microsoft Office Specialist (MOS) Certification. Students will become very proficient in practical programs like Microsoft PowerPoint, Word, and Excel. This course will be helpful throughout high school, college and into your future career. This course is application based, giving you experience and practice in the programs every day.

### **Digital Publishing**

(full year) Grades 9-12

This course allows students the opportunity to experience digital design and publication. The course begins with students creating an appropriate online presence through a digital portfolio and teachers them how to brand themselves for a positive future online. Students will have the opportunity to create and develop projects for real-world scenarios, and will gain invaluable communication skills through working with students and adults. Projects include: marketing, graphic design, video editing and creation, and photo editing. Each week, students also work on digital publications for Houghton High School through social media sites, newsletters, and slide creation. This course mixes technology, creativity, and design.

### **AP Computer Science Principles**

(full year) —*Prerequisite: Algebra I* - SUBJECT TO AVAILABILITY

This is an entry-level course into Computer Science, introducing students to the foundations of modern computing. The course covers a broad range of computer topics such as Encoding, Programming, Visual Data, Algorithms, the Internet, Big Data, Digital Privacy and Security, and the societal impacts of computing. For more details, contact Mr. Leach at: [bleach@hpts.us](mailto:bleach@hpts.us).

## **APPLIED ARTS**

### **General Woodworking**

(one semester) — Grades 9-10

Students will learn basic hand tool procedures and be introduced to various power machine practices, identifying types of woods, finishing procedures, general background in woodworking, hardware, and kinds of nails and screws. Students will do required projects to gain an understanding of machine operations and safety procedures. A teacher approved project designed by the student will be completed.

### **General Metals**

(one semester) — Grades 9-10

Students will learn basic hand tool procedures and be introduced to various machine practices (i.e., metal lathe, grinder, drill press). Students will do required projects to gain an understanding of machine operations and safety procedures. Students will be introduced to seven areas in metalworking: (1) arc welding, (2) oxy-acetylene welding, (3) sheet metal, (4) forging, (5) heat treatment of metals, (6) wrought iron, and (7) machining (metal lathe).

### **Auto CAD I**

Grades 9-12

Students will use conventional drafting equipment to learn basic drafting procedures. Concepts will include but not be limited to orthographic projection, sectional views, auxiliary views, lettering practice, dimensions, notes and related rules, screw thread representation, and pattern development. Students will learn the basic commands, mode settings, drawing aids, short cuts, and other valuable characteristics of Auto CAD.



## **Auto CAD II**

Grades 10-12 — *Prerequisite: Auto CAD I - SUBJECT TO AVAILABILITY*

Students will learn residential architecture with the use of AUTO CAD. The problems will familiarize the students with basic techniques of construction from foundation plans through floor plans and elevation views. Students will do interior elevations and section views. Proper dimensioning will be used on all drawings. Students will also use the proper symbols for electrical devices and plumbing fixtures and make door and window schedules.

## **Advanced Metals**

(full year) — Grades 10-12 — *Prerequisite: General Metals*

Students will learn basic GMAW (Gas Metal Arc Welding), SMAW (Shield Metal Arc Welding), OFS (Oxy Fuel Safety), and techniques of welding including vertical, horizontal, and overhead welding. This course will also include print reading for welding. Inspection and testing of all welds will be required. Students will work on custom projects or metal sculptures from the design stage to completion. This class promotes critical thinking skills, common sense, and imagination. Projects include snowmobile trailers, tree stands, woodstoves, sauna stoves, etc. Students may also design sculptures made from steel, aluminum, or other metals. This class also incorporates 3D Plastic Printing.

## **Advanced Woodworking**

(full year) — Grades 10-12 — *Prerequisite: General Woods*

Advanced woodworking is designed to allow the student to apply the beginning principles and techniques from General Woods. It will further expand the student's understanding of woodworking by producing a piece of furniture that is not only functional but aesthetically pleasing as well. The student will have the opportunity to use all of the tools and machinery the wood shop has to offer.

## **3D Printing**

(full year) — Grades 9-12

The 3D Printing class will learn how 3D printers are designed, made, programmed, calibrated and used in today's society. The students will learn all aspects of using the 3D printers. Using engineering design programs, a variety of 3D modeling programs, and the 3D printers, students will create prototypes solving problems that are presented to the class. Once the prototype is designed, the 3D printers will be used to create the prototype. If the solution does not resolve the problem, students will reengineer the prototype and reprint until the prototype solves the problem. There will also be an opportunity for all students to purchase, build, program, calibrate and take home a 3D printer. There is no prerequisite for this class. The class will utilize both individual and group efforts, and may include verbal presentations, demos and other forms of presentation as decided by the instructor.

## **CAREER/TECHNICAL EDUCATION**

**PLEASE NOTE:** *The following Career/Technical Education courses will be offered to seniors first and juniors second. You MUST have a good attendance record in order to be considered for enrollment. Students provide their own transportation. Each class is a two-hour two-credit program.*

### **Automotive Technology**

The goal of the Automotive Technology program at the Copper Country Career and Technical Education Center is to introduce and prepare students to explore or enter the automotive field. This program provides a "head to hands-on" approach that will lead to success in post-secondary training and into an expanding automotive-related field. Students involved in this program may range from technician trainees to pre-engineering students. Some of the instructional areas to be covered are: Introduction to Automotive Technology, Front-End Alignment, Engine Diagnosis, Electrical Systems, Suspension, and Brakes.

### **Construction Technology**

This course is designed to prepare students for job entry in the construction field or advanced work in a technical school. The Construction Technology program provides the student with knowledge and skills to build a house from the foundation to its completion. Students achieve a wide variety of hands-on experiences, all related to the multi-faceted construction industry as listed in the content area below. Rules of health and safety as prescribed by the National Safety Council will be adhered to in this course. Areas of study include: Carpentry Skills – Rough

and Finish, Understanding Architectural Drawings/Blueprints, Safe Use of Hand and Power Tools, Material Selection, Layout, Preparation, and Fabrication, Concrete Work and Laying Up of Masonry Units, Roofing, Electrical Wiring, Plumbing, and Drywall Handling and Finishing.

### **Health Occupations**

The Health Careers program provides students with the opportunity to explore the many available career options in the healthcare profession. Students learn CPR (Cardio-Pulmonary Resuscitation), emergency first aid, medical terminology, basic anatomy and physiology, and the communication skills necessary for success in the healthcare field. After completion of the core curriculum, including-but not limited to-communication skills, professionalism, infection control, legal and ethical issues in health care, confidentiality, and safety, students have an opportunity to experience hands-on training and job shadowing in local facilities with professionals in the careers, they would like to explore. Students also research the roles of various health care professionals through reading, accessing Internet sites, and viewing educational videos to learn more about the careers they may be interested in pursuing. Guest lecturers in the classroom share their knowledge and demonstrate skills, while field trips allow students to get a first-hand look at many of the career options related to health care. Some of the instructional areas to be covered are: Communication, Safety, Rehabilitation, Medical Ethics, Vital Signs, Emergency Procedures, Body Structure, Asepsis, Medical Terminology, CPR and First Aid Certification, Personal Care, and Transporting/Transferring/Ambulating/Positioning.

### **Certified Nursing Assistant (CNA)**

The Certified Nursing Assistant program is ideal for students who would like to explore nursing as a possible career and for those who would like to work as a CNA. This course will provide training for students to obtain the skills necessary to take the state of Michigan's competency evaluation exam to become a CNA. Upon successful completion of the exam, students will have their name placed on the state registry and will be eligible to work as a CNA in hospitals, nursing homes and with health care agencies. This course is a combination of theory, lab practicum (where students practice skills), and clinical instruction (students do direct patient care under the guidance of their instructor). Students enhance their verbal and written communication skills in a health care environment and learn the professional, legal and ethical issues related to health care. Students explore employment opportunities in this fast-growing field through field trips and guest speakers. Some of the instructional areas to be covered are: Introduction to Health Care, Death and Dying, Vital Signs, Body Systems and Diseases, Environmental Safety, Patient Care Skills, Medical Math, Medical Terminology, Ambulation, Infection Control, Acute Long Term Care, Emergency Situations, CPR and First Aid Certifications, Restorative Care, and Communications.

### **Welding Technology/Manufacturing**

The Welding Technologies/Manufacturing program prepares students for entry-level job skills in the Welding field or participation in a community or technical college program. Instruction is provided in safety, cutting and bending steel, shielded metal ARC welding, gas metal ARC welding (wire feed), gas tungsten ARC Welding (TIG), oxy acetylene torch cutting, project layout and construction, daily maintenance of shop and equipment and employability skills. Students are required to complete welding and cutting operations as well as a required project. **Students are expected to take American Welding Society Certification tests available to students in ARC, MIG, and Flux Core ARC Welding.** If a student passes any of these certification tests, he/she will receive a nationally recognized certificate which is valuable for securing employment. Time in this course is split between lecture and hands on activities. Second year students will focus on Manufacturing skills required by local manufacturers. Some of the instructional areas to be covered are: Occupational Orientation, Safety and Health for Welders, Shielded Metal Arc Welding, Oxyfuel Gas Cutting, Plasma Arc Cutting, Shielded Metal Arc Welding, Math for Welders, Welding Symbols, Gas Metal Arc Welding, Flux Core Arc Welding, Welding Inspection and Testing, and Gas Tungsten Arc Welding.

### **Computer Networking/Cyber Security**

The Computer Networking Program focuses on configuration, implementation, and troubleshooting of a networked environment. Upon successful completion students should have the knowledge to:

1. Utilize the OSI and TCP/IP model, understand the importance of bandwidth, how it is measured and its limitations.
2. Perform LAN, WAN, and VLAN design, administration and troubleshooting
3. Demonstrate the ability to successfully cable LANs and WANs.



4. Understand routing fundamentals and subnets, and design an IP addressing scheme to meet design requirements
5. Identify key characteristics of securing a LAN and WAN network environment
6. Understand the business fundamentals and analysis of designing a network

### **Early Childhood**

Early childhood educators work in child care centers, preschools, and public schools with children through the age of eight. They play an important role in shaping the kind of individual a child will become. In addition to attending to children's basic needs for trust and understanding, they prepare curriculum that stimulates the children's physical, emotional, intellectual, and social growth. They help children explore and learn through the development of their interests which enhances independence and builds self esteem.

Early childhood professions are a link between the home and the school communicating with parents and meeting the needs of both children and families. They create a safe, healthy learning environment in which children can grow and develop. They may be classroom teachers, special needs aides, teaching assistants, parent and curriculum coordinators, or center directors.

### **Marketing/Graphic Design**

This course will take students through the dynamic world of marketing and merchandising. Real world marketing will be a part of every class using the Internet, computer simulations, projects and guest speakers. Topics to be covered include marketing information management, distribution, market planning, promotion/social media, product/service management, pricing, selling, risk management, finance and economics applied to business situations. Students will have the opportunity to become members of DECA, a student organization designed to prepare students for the fields of marketing, merchandising, entrepreneurship, and management.

## **FINE ARTS/FOREIGN LANGUAGE**

### **Art I**

Grades 9-12

Students will work with a variety of materials including oil, pastels, charcoal, pencil, clay, glass, acrylic paint, and watercolors, to build basic skills. Students will also learn about artists from a variety of time periods and learn about art from around the world.

### **Art II**

Grades 10-12 — *Prerequisite: Art I*

Students will use techniques learned in Art I to create self-directed projects. New art forms, materials and techniques will be introduced, such as photography, mixed media projects, sculpture, jewelry making, collages and murals.

### **Art III/IV**

Grades 11-12 — *Prerequisite: Art II*

This class is for the serious art student who will be preparing a portfolio for college or who plans on incorporating art into their life in the future. Students will be introduced to new material and art forms, including stained glass, studio photography, pottery, mosaics, and found object sculpture. Great artists and their works will be studied. Students may be involved in community art projects.

### **Yearbook**

Grades 10-12 (Full Year)

Students will work together to produce the Amygdaloid, the Houghton High School yearbook. One will take digital pictures (possibly at events in the evenings), scan images, and manipulate and apply images to yearbook pages using Photoshop. Students will also sell advertisements and yearbooks and keep records of this. The meeting of deadlines is expected of the students.

### **Advanced Band**

Grades 9-12

The advanced band plays at an advanced level in a variety of settings, styles, and forms and is primarily a performance-oriented class.

### **Advanced Chorus**

The advanced chorus is a performance-oriented class. The number of performances varies with the interest and abilities of the chorus. Opportunities are available to sing in large and small groups and as soloists, and include concerts and contests.

### **Spanish I**

Grades 9-12 — *Suggested Prerequisite: C average or better in previous English course*

This class assumes you have little or no knowledge of Spanish language or culture. It teaches the fundamentals of Spanish through a natural approach with an emphasis on listening skills, with the understanding that speaking skills will emerge over time. Latin and Spanish culture will be explored as well. Students should leave class with a knowledge base of the most fundamental words and good comprehension skills.

### **Spanish II**

Grades 10-12 — *Prerequisite: Spanish I*

This class continues from Spanish I. It develops more vocabulary and grammar knowledge and begins to foster speaking skills more fully. It also looks at more foreign cultures. Students will begin to use Spanish as a means of conversation and be able to express themselves more fully.

### **Spanish III**

Grades 11-12 — *Prerequisite: Spanish II* – Subject to availability

This class continues from Spanish II. It develops further knowledge of grammar and vocabulary and begins to focus more on communicative aspects of the language and using the language in higher order skills, as a means of analysis and expression.

### **Spanish IV**

Grade 12 — *Prerequisite: Spanish III* – Subject to availability

This class continues from Spanish III. It develops further knowledge of vocabulary and grammar and continues to actively foster communicative skills through an immersion environment. It also promotes growth in utilizing the language in higher order skills as a means of analysis and expression.

### **German I**

Grades 9-12 — *Suggested Prerequisite: C+ average or better in previous English course*

This is the first year of high school German. No previous knowledge of the language is required. The focus of this course is on mastery of the basic vocabulary, grammar, reading, writing, and oral skills necessary to communicate in German at the introductory level.

### **German II**

Grades 10-12 — *Prerequisite: German I*

This is the second year of high school German and is a continuation of the previous year's curriculum. The focus of this class is expanding on basic communication skills, increasing the student's working vocabulary and range of topics, and learning more advanced language concepts.

### **French I**

Grades 9-12 — *Suggested Prerequisite: C+ average or better in previous English course*

This is the first year of high school French. No previous knowledge of the language is required. The focus of this course is on mastery of the basic vocabulary, grammar, reading, writing, and oral skills necessary to communicate in French at the introductory level.

### **French II**

Grades 10-12 — *Prerequisite: French I*

This is the second year of high school French and is a continuation of the previous year's curriculum. The focus of this class is expanding on basic communication skills, increasing the student's working vocabulary and range of topics, and learning more advanced language concepts.

## PHYSICAL EDUCATION/HEALTH

### Physical Education I/Health

(full year) —REQUIRED

This course is a combination of physical education and health. Students may take this course to fulfill their high school requirement of Health/Physical Education. This course encompasses the Michigan standards for high school. There will be periodic tests and an exam at the end of each semester. Participation points will also be used in the calculation of grades for each student.

### Weight and Cardio Training

(Full Year) — Grades 9-12

Students will do weight and resistance training, along with workouts designed to improve cardiovascular fitness.

### Individual and Team Sports

(Full Year) — Grades 9-12

This class will focus on sports that are fun and exciting and can be done for a lifetime of enjoyment. Students will have the opportunity to focus on individual pursuits such as golf, cross country skiing, bowling and team activities.

### JROTC (Junior Reserved Officer Training Corps)

Grades 9-12 –Two years of JROTC will satisfy the health and physical education graduation requirement. JROTC helps students develop Leadership, Communication and Individual Life Skills while focusing on Citizenship within our community. This course covers topics that reinforce some of the high school core curriculum such as World History, U.S. Government, and Speech. We cover Physical Fitness, Health and Nutrition, First Aid, and Personal Skill Improvement (how to study, test taking, and interview techniques) and several other topics designed to improve confidence and life skills.

JROTC offers extracurricular activities that include: Marksmanship (Varsity Sport), Color Guard, Drill Team, and the Raider Platoon (Physical Fitness). Cadets have the opportunity to attend a one-week summer camp (JROTC Cadet Leadership Challenge, JCLC) where they will challenge themselves against Confidence Course, Land Navigation, Leadership Positions, Rappelling, Rope Bridge and other unique events. JROTC Cadets also participate in various community and school service projects that reflect positively on the school and the Cadets such as the Veterans Day program and community parades. All equipment is provided by the JROTC program at no cost to the student. **There is NO MILITARY SERVICE OBLIGATION** with this program. Our primary focus is to help the student/Cadet graduate high school. We do not promote the military lifestyle – but we do use proven military skills to teach self-discipline, confidence and pride in a job well done. However, students who choose to enter any of the military services after graduation can receive one or two automatic promotions based on the number of years completed in the JROTC Program and the branch of service. For more information [click here](#).