Dear Students and Parents/Guardians:

It is with great pride that the faculty and staff of Portland High School present to you the courses that are listed and discussed in this handbook. It is our goal to present a program that allows every student the opportunity to be challenged, to pursue his/her interests, and to realize his/her potential.

Please read this handbook carefully. Each course listing is accompanied by a detailed description which will aid you in your selection of courses.

Sections of this handbook detail valuable information about graduation requirements and various options that are available so students can gain the necessary credits to graduate from Portland High School. It also provides information about the Educational Development Plan (EDP) process, adding and dropping a class, dual enrollment, Early Middle College, as well as other academic policies.

It is a pleasure for me to work with the wonderful faculty who will facilitate student learning. It is also my pleasure to be associated with a student body that values education and is dynamic and positive. I am available to discuss your experience at Portland High School any time you need me.

I extend to you my best wishes for a successful and productive year.

Sincerely,

Christine Rockey
Principal

Portland Public Schools Mission Statement

“The mission of Portland Public Schools, in partnership with the community, is to educate citizens who demonstrate the academic, team work, and personal management skills needed to function effectively in a global society.”
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*Not all classes are offered each year. Availability depends on resources and demand.*
Portland High School Staff

Office Staff:
Mrs. Fedewa, Principal’s Office
Mrs. Blaschka, Student’s Service Office
Mrs. Hager, Athletic Office

Administrative Staff:
Mrs. Rockey, Principal
Mr. Sheppard, Dean of Students
Mr. Veale, Athletic Director

Counseling Staff:
Ms. Patterson
Mr. Moore

Support Staff:
Mrs. Campbell, Media Center Specialist
Ms. Enright, School Psychologist
Mrs. Goodwin, School Social Worker
Mr. Martin, Instructional Aide
Mrs. Manshum, Instructional Aide
Mr. Sandborn, Custodian
Mr. Simpson, Instructional Aide

Teaching Staff:
Ms. Brehmer, Special Education/Social Studies
Mr. Brooks, Math
Mrs. Coyne, Math/Science
Mrs. Davlin, Math/Science
Mrs. DeGroot, Family Consumer Science
Ms. Firehammer, Math/Social Studies
Mrs. Getchell, English
Mrs. Goeckel, Special Education
Ms. Grasman, Computer Apps/Science
Mr. Green, Science
Mr. Haid, Social Studies/Physical Education
Ms. Hengesbach, English/Social Studies
Mr. Holdren, Science
Mrs. Hon sowitz, Science/Technology
Ms. Lowe, French/Government
Mr. Lupton, Special Education/Social Studies
Ms. Metevier, English/Spanish
Mr. Niebling, Math
Mrs. Novara, Special Education
Mr. Novara, Math
Mrs. Pohl, English/Social Studies
Mrs Polasek, English/Drama
Mr. Pulling, Physical Education/Health
Mrs. Rockey, Social Studies
Mr. Scheurer, English/Social Studies
Ms. Stamm, English/Yearbook
Mr. Sulecki, Band
Mr. Tisdale, Art
Mr. Welch, Spanish
Scheduling Information-Adding/Dropping Classes

All requests for schedule changes must be initiated with the counselor.

Students may change their schedule for the following reasons:

• a more appropriate level class is recommended by the teacher.
• the student was scheduled into a class already completed.
• the program or class is being dropped or added by the administration.
• the student has fewer than six classes printed on his/her schedule.
• the student does not have the prerequisites for a course.

Students will not be given the option to change their schedules after the posted add/drop period unless they have the approval of a counselor or administrator.

If a student drops a class after the posted add/drop period, the student may receive a “Withdraw Pass or Fail” semester grade for the class.

Students who stop attending class without an approved schedule change will be considered unexcused.

Students committing to a year long class are expected to stay for the full year unless it is mutually agreed upon by both the teacher and student that he/she be allowed to drop the class at the semester time. Parental approval is required to drop a required class.
Graduation Requirements and Academic Standards

1. A student must earn a minimum of twenty-two (22) credits in order to graduate.
2. Required credits for issuance of a diploma and graduation:

   - **English Language Arts** 4.0 Credits
     - Must include ELA 9, ELA 10, ELA 11 or equivalent, and ELA 12 or equivalent.
   - **Communications** 0.5 Credits
   - **Mathematics** 4.0 Credits
     - Must include Algebra I, Geometry, Algebra II, and one additional mathematics credit.
     - The student MUST complete a Mathematics course in his/her senior year.
   - **Science** 3.0 Credits
     - Must include Earth Science/Physical Science, Biology, and Chemistry or Physics or Applied Physics
   - **Social Studies** 3.0 Credits
   - **Information Technology** 0.5 Credits
     - Must include Computer Applications or Intro to Computer Science for the Classes of 2019, 2020, and 2021.
   - **Physical Education/Health** 1.0 Credit
     - Must include Physical Education 9 and Health 9.
   - **Visual, Performing and Applied Arts** 1.0 Credit
   - **World Language** 2.0 Credits
     - Must be the same language or equivalent
   - **Online Learning Experience** Transcript Notation

3. Successful completion of a full-year class is equal to one credit. A semester class is equal to one-half credit. In order to accrue credit for a class a student must successfully complete the class with a minimum grade of “D-” or pass the final exam with a 77% or higher.
4. All classes shall conclude with an “End of Course Assessment/Exam” that will constitute 20 percent of the student’s final grade towards credit for the class.
5. All students are to enroll in and attend 6 class hours per day.
6. A student may be granted PHS credit for credits earned from other institutions based upon review by the counselor and administrator.
7. A student must participate in good faith in Michigan Merit Examination (MME) testing in order to participate in commencement exercises for his or her graduating class.

**Personal Curriculum**

The Michigan Merit Curriculum legislation allows a parent, school personnel, student age 18 or older, or emancipated student to request a “personal curriculum” for a pupil that modifies certain requirements of the Michigan Merit Standard requirements. The personal curriculum must be developed by the pupil, at least one of his or her parents or his or her guardian, and a teacher or counselor. Revisions to a personal curriculum may be made if they are developed and agreed to in the same manner as the original personal curriculum.

The personal curriculum must incorporate as much of the subject matter content expectations of the Michigan Merit Standard as is practicable; establish measurable goals that the pupil must achieve while enrolled in high school; provide a method to evaluate whether he or she has met those goals; and be aligned to the pupil’s educational development plan (EDP- which a pupil must develop before entering high school).

The pupil’s parent or legal guardian and the superintendent of the school district or his or her designee must agree to the personal curriculum before it takes effect.

**Career Pathways**

There are six career pathways with a professional and technical path for each. The pathways are: Art & Communication, Business, Management, Marketing & Technology, Engineering/Manufacturing, Health Sciences, Natural Resources & Agri-science, and Human Services. Some classes fit better into one pathway than another. See your guidance counselor for information regarding career paths.
Testing Out

The Board of Education of Portland Public Schools acknowledges that some students may have acquired knowledge or skills at levels that would allow them to demonstrate they meet or exceed the content expectations associated with a subject area. Portland High School students may request an opportunity to demonstrate such mastery either through a written examination or other culminating experience normally reserved for students upon completion of a class, referred to as “testing out”. It is the intent of the Board to extend to all students the opportunity to demonstrate mastery in a range of courses offered at Portland High School, and to allow for the most efficient use of instructional time.

- This policy will apply equally to all students of Portland High School.
- No letter grade shall be earned by testing out of a course; the notation of successful completion and earning of credit will be noted on the student’s transcript.
- Credit earned through this provision shall be counted toward graduation.
- Credits earned through testing out shall not be included in a computation of grade point average for any purpose.
- A student may not test out of a class in which he/she is currently taking or has been previously enrolled.
- To earn credit the student must achieve a grade of at least a C+ on each end of semester assessment.
- After earning credit in a course via testing out, the student may not receive credit thereafter for a course lower in the sequence in the same subject area.
- The following will be the allowable times in which a student may attempt to test out of a class:
  1. The final exam period at the end of the first semester.
  2. The final exam period at the end of the second semester.
  3. One day set aside prior to the start of school in the fall.
- A student who wishes to attempt to test out of a class must file a request ten (10) days before the end of the semester for 1 and 2 above, or test out prior to the first day of classes (3 above).
- Students who wish to attempt to “test out” of a class must meet with a building administrator or counselor to discuss options.
- A student may only attempt to test out of each class one time.
The NCAA Eligibility Center has designed this website with you, the student-athlete, in mind. This is where you will find the tools and information you will need to begin your college experience as a student-athlete.

**Freshmen and Sophomores**
*Start planning now!*
*Work hard to get the best grades possible.*
*Take classes that match your high school’s list of NCAA courses. The NCAA Eligibility Center will use only approved core courses to certify your initial eligibility. (See below on how to access this list.)*
*If you fall behind use summer school sessions before graduation to catch up.*

**Juniors**
*At the beginning of your junior year, complete your online registration at [www.eligibilitycenter.org](http://www.eligibilitycenter.org)*
*When you register to take the SAT or ACT, use the NCAA Eligibility Center code “9999” as a score recipient. Doing this sends your official score directly to the NCAA Eligibility Center.*
*Double check to make sure the courses you have taken match your school’s list of NCAA courses.*
*Through Parchment Transcript Service on the Portland Public Schools (PPS) website under Request My Transcript, send an official transcript to the NCAA Eligibility Center. They will need official transcripts from all high schools attended. (The NCAA Eligibility Center does NOT accept faxed transcripts or test scores.)*
*Before registering for classes for your senior year, check with your high school counselor to determine the amount of core courses that you need to complete your senior year.*

**Seniors**
*Take the ACT and/or SAT again, if necessary. The NCAA Eligibility Center will use the best scores from each section of the ACT or SAT to determine your best cumulative score.*
*Continue to take college-prep courses.*
*Check the courses you have taken to match your school’s list of NCAA courses.*
*Review your amateurism responses and request final amateurism certification on or after April 1 (for fall enrollees) or October 1 (for Spring enrollees).*
*Continue to work hard to get the best grades possible.*
*Graduate on time (in eight academic semesters).*
*After graduation, request your final transcript through Parchment Transcript Service on the PPS website under Request My Transcript and have it sent to the NCAA Eligibility Center with proof of graduation.*

**NCAA Eligibility Center Registration**

**Online Registration**
To register with the NCAA Eligibility Center:
- Go online to [www.eligibilitycenter.org](http://www.eligibilitycenter.org)
- To register as a NCAA College-Bound Student-Athlete, click on “Create an Account” or “Create a Profile Page” depending on the school you want to attend.

**Division I Examples:** Central Michigan University, Eastern Michigan University, Michigan State University, Oakland University, University of Detroit Mercy, University of Michigan, and Western Michigan University.

**Division II Examples:** Ferris State University, Grand Valley State University, Hillsdale College, Lake Superior State University, Michigan Tech University, Northern Michigan University, Northwood University, Saginaw Valley State University, and Wayne State University.
Educational Developmental Plans

Students will create and annually update their Educational Development Plan (EDP). The EDP is an action plan regarding course selection that focuses the students toward their future and lifelong learning. Elements of the EDP include: personal data, career goals, education goals, assessment results, career exploration, course selection, and parental endorsement. Since each student will have an online account, the EDP may be accessed at any time by visiting www.careercruising.com and entering a student username and password, available from the Counseling Office. Students are encouraged to work with their school counselor to ensure accurate completion of their EDP. Each year, students are brought to computer labs in groups to update their EDPs. At the end of each activity, students are asked to use the email tool to invite a parent or guardian to review the EDP.

The following explanation of EDPs was drawn from the Michigan Department of Education publication EDP Fundamentals: Guidelines for the Use of Educational Development Plans (EDPs), Michigan Department of Education, 2009:

**Why Do Students Need an Education Development Plan (EDP)?**

The Michigan Merit Curriculum (MMC) legislation (P.A. 141 of 2007) states that “The board of a school district or board of directors of a public school academy shall ensure that each pupil in Grade 7 is provided with the opportunity to develop an EDP, and that each pupil has developed an EDP before he or she begins high school. An EDP shall be developed by the pupil under the supervision of the pupil’s school counselor or another designee qualified and selected by the high school principal and shall be based on a career pathways program or similar career exploration program.

The first step in developing an individualized approach to learning is the EDP. An EDP documents an ongoing process in which a learner identifies both career goals and a plan of action to achieve them. The EDP does not take the place of either an Individualized Education Program (IEP) or a Personal Curriculum (PC) modification.

**Developing an EDP**

All students are required to develop an EDP with guidance from school advisors. When applicable, parents and community contacts should also be included. EDPs are “living” documents, updated as student interests and abilities become more obvious and focused.

State law requires local schools to provide an opportunity for students to begin developing an EDP in Grade 7 and requires that every student has an EDP before entering high school. By preparing the initial EDP in middle school, students can better plan their high school curriculum to meet their post-school goals. The EDP is a secondary/postsecondary planning tool to direct the student’s educational plan and career planning activities. Schools use paper EDPs, electronic EDPs, or Web based systems such as Career Cruising to help students write their education and career goals, including strategies and high school classes that will help them reach these goals.

**If you have any question about this process, please see your school counselor.**
The Essential Elements for an EDP

No specific form or format is required for an EDP. Schools may design EDPs that best meet their local needs. The following are some essential elements to include in any EDP:

*Personal Information: This usually includes the student’s name, date of birth, and grade level. The EDP is a learning and planning document and should be maintained with the same policies governing other student records, as required in the Family Education Rights and Privacy Act (FERPA).

*Career Goal(s): Each student should identify a career pathway and goals for achieving success. Goals may be more general in middle school and become specific as the student progresses through high school.

*Educational/Training Goal(s): Each student should identify the level of educational preparation needed to meet his or her career goal. This encourages students to think beyond high school graduation and set long-range goals.

*Assessment Results: The student may summarize the results of various assessments, highlighting information that is relevant to making career decisions. Assessment data may include formal and informal data such as: career interest surveys, aptitude testing, informal observations, student projects or hobbies, academic achievement, values assessments, and extracurricular activities. From this information, students will be able to identify individual interests and strengths. Students may also set improvement goals. Over time, students will be able to use this information to confirm career decisions or adjust goals.

*Plan(s) of Action: The action plan should include high school course selections, projected completion dates, desired degree, certificate or other credential, timeline for college application, financial assistance deadlines, and employment opportunities. Activities may include volunteer or work-related experiences including job shadowing, mentorship programs in community businesses, or part-time employment in areas related to the student’s career goal(s). The scope of student planning can include career awareness or exploration activities, work-based activities, and course selections that will prepare her/him for greater understanding of career options and achievement of career goals.

Students may also investigate educational programs available within the school or college curriculum that will provide opportunities to become more aware and skilled in a career pathway (e.g., an internship in a community agency or intensive project-based learning in a particular course). The student should also take the time to explore the opportunities for earning college credit while still in high school through Advanced Placement (AP) courses, dual enrollment, International Baccalaureate (IB) and other programs.

*Parent/Guardian Consultation/Endorsement: Parents/guardians should have the opportunity to review and endorse their child’s EDP. This will give parents/guardians access to information about emerging career and employment trends so they can help their children to prepare for the future. Parents/guardians may also need to discuss assessment results or have assistance interpreting them. Students should be encouraged to discuss career-related issues with their parents/guardians and share their goals and action plans.

What Happens After the EDP is Written?
A student’s EDP should be reviewed and updated on at least an annual basis. An EDP process could also include yearly work samples that document the student’s progress toward anticipated goals and accomplishments. The school must establish times to annually review EDPs and update them as students choose and change high school courses or career pathways.
English /Language Arts

104 English Language Arts 9 Year 9
Required to graduate
This course focuses on communication skills, forms of literature, writing, informational and narrative reading, and English language usage. Academic, personal management, and teamwork skills are integrated into the course.

106 English Language Arts 10 Year 10
Prerequisite: English 9; Required to graduate
This required course is designed to continue the development of language arts skills in reading, writing, speaking, listening and organizing. Reading selections will focus on contemporary American literature.

108 English Language Arts 11 Year 11
Prerequisite: English 10
Option of one English 11 level course required to graduate
This course is designed to enhance students’ reading, writing, and vocabulary skills using literature as a vehicle. In accomplishing these goals, students will also improve their critical thinking and communication skills. The course also focuses on standardized testing, college applications, and English language usage.

110 Honors English Language Arts 11 Year 11
Prerequisite: English 10, Parent/Teacher Recommendation
Option of one English 11 level course required to graduate
This course is designed to enhance students’ reading, writing, and vocabulary skills using literature as a vehicle. In accomplishing these goals, students will also improve their critical thinking and communication skills. The course also focuses on analysis of American Literature, standardized testing, college applications, and English language usage. Classwork will be at or above performance standards.

112 English Language Arts 12 Year 12
Prerequisite: Grade 11 English
Option of one English 12 level course required to graduate
As students become more proficient and self-confident communicators, they will be encouraged to develop personal writing styles. Through communication skills they will set goals and make career choices. A variety of communication forms will be used to respond to class activities.

114 Honors English 12 Year 12
Prerequisite: Grade 11 English, Parent/Teacher Recommendation
Option of one English 12 level course required to graduate
This course is designed to help students think logically and critically, and develop a personal writing style. Through reading, discussion, analysis, writing, and reflection, students will study the universal themes of world literature. Classwork will be at or above performance standards.

120 AP Language and Composition Year 11-12
Prerequisite: Teacher Recommendation
In preparation for the AP exam, students will read, respond to, interpret, and evaluate literature (primarily English lit.) from all periods. Students will write both formally and informally with formal emphasis on literary analysis, interpretation, criticism, and evaluation. Informal writing tasks may include response and reaction papers, reading journals, collaborative writing, and literary analysis/criticism. Students will regularly write timed, in-class essays on given prompts. This course will often consist of college-level reading and tasks. It is essential that students in the AP Lit./Comp. course be prepared to read, compose and perform tasks that are beyond the standard and even college-preparatory level. Because this course is designed to substitute for one semester of college English through the successful completion of the Advanced Placement examination administered in May of each year, it is required that students take the AP Exam (approx. $80). There is a summer reading requirement assigned after registration, due the first day of class in the fall. Students must purchase or provide supplementary texts/novels and a workbook (approx. $30 total).

140 Yearbook * Year 10-12
The course is designed to teach students journalistic writing, photography, and theme building. Students will also learn about sales and advertising and learn to use computer publication programs including Adobe Photoshop. The skills will be used to create the Portland High School Yearbook, The Looking Glass. Students should expect to work outside of class attending events, interviewing, taking photos, and advertising.

144 Communications * Semester 9-12
Required to graduate
Students will analyze verbal and nonverbal communication strategies, examining communications theory from interpersonal communications to mass communications. Effective speaking and listening skills will be emphasized.

* Satisfies MMC Visual, Performing and Applied Arts credit required to graduate.
Mathematics

210 Algebra I  
**Required to graduate**
Considered the language of mathematics, algebra will allow the student to describe patterns, work with formulas, discuss unknowns in problems and graph ideas. Students will be able to manipulate symbols, work with powers, functions, exponents, and roots. They will be able to analyze linear equations and work with basic statistics and probabilities.

220 Geometry  
**Prerequisite: Algebra I; Required to graduate**
This course is designed to allow students to apply geometric concepts in describing and answering questions about natural, physical and social phenomena. Students will work with: congruence and similarity, points, lines and angles, properties of polygons, and transformations.

230 Algebra II  
**Prerequisite: Algebra I and Geometry; Required to graduate**
This course implements the shift from manipulative skills to algebra as a means of representation. Students will use variables and functions to model numerical patterns and quantitative relations, including powers and roots, exponents and logarithms, polynomial, rational, and trigonometric relations.

240 Pre-Calculus & Discrete Mathematics **  
**Prerequisite: Algebra II**
This course is designed to emphasize preliminary concepts found in any college level calculus class. It builds on the concepts learned in Algebra II via graphical, numeric and algebraic methods. Special attention will be given to trigonometry topics.

260 AP Calculus **  
**Prerequisite: Pre-Calculus or Instructor Recommendation**
This course is designed to substitute for one semester of college math through the successful completion of the Advanced Placement examination administered in May of each year, it is required that students take the AP Exam (approx. $84).

290 Financial Algebra **  
**Prerequisite: Algebra II**
In a world in which managing one’s finances is becoming more and more complex, this one semester course is designed to give students an understanding of the mathematical basics of personal budgeting, managing credit and a checkbook, paying income taxes, making investments and much more. The focus of this class is to learn the mathematics behind personal financial decisions to help students make informed choices when they enter the world beyond high school.

292 Basic Statistics **  
**Prerequisite: Algebra II**
This one-semester course is designed to introduce students to basic statistical concepts through discussions, examples, exercises, and projects. Upon completion of this course, it is expected that students will have mastery of organizing data with charts and graphs, working with averages and correlations between items and probability.

**Satisfies MMC Mathematics credit required to graduate**
### Social Studies

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<th>Course Code</th>
<th>Course Title</th>
<th>Year</th>
<th>Required to Graduate</th>
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<tbody>
<tr>
<td>310</td>
<td>World History</td>
<td>9</td>
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<td>Required to graduate</td>
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This required class looks at World History through the major social benchmarks in history, such as the Middle Ages, the Renaissance Period, Reformation, the Scientific Revolution, and Imperialism and World Conflict. Students will be able to recognize names of famous individuals and explain their significance in history, describe key political, economic and religious events, identify and explain key terms ascribed to a time period, and identify and explain maps, artifacts, and works of art.

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<th>Course Code</th>
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<th>Year</th>
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<tbody>
<tr>
<td>320</td>
<td>U.S. History</td>
<td>10</td>
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<td>Required to graduate</td>
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This required course looks at U.S. history from 1898 to the present. Students will be able to know and understand the basic facts and events from each period of U.S. history and evaluate their roles in that history; apply the lessons of U.S. history to any understanding of the present conditions of the United States and the world; and improve critical and creative thinking skills in relation to U.S. history topics.

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<th>Year</th>
<th>Required to graduate</th>
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<tbody>
<tr>
<td>325</td>
<td>World Affairs</td>
<td>11-12</td>
<td>Semester/Full Year</td>
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<tr>
<td></td>
<td>Prerequisite: U.S. History</td>
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This course is designed to increase student awareness of the important persons, places, and events that make up the news. Utilizing current topics and issues, students will be able to: create an interest in the importance of current events; formulate and defend opinions about current topics, and improve critical thinking skills in relation to world affairs.

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<tbody>
<tr>
<td>327</td>
<td>Social Psychology</td>
<td>11-12</td>
<td>Semester</td>
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<td></td>
<td>Prerequisite: 10th graders with Instructor Approval</td>
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This course focuses on thoughts and behavior of individuals and how the interactions of individuals create social structures with properties unique to the groups and relationships that results. The emphasis is threefold: formation of primary individual attitudes and perceptions; nature of interpersonal affiliations and social exchange; and process of group construction and intergroup/intragroup relations.

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<tbody>
<tr>
<td>328</td>
<td>Intro to Psychology</td>
<td>11-12</td>
<td>Semester</td>
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<tr>
<td></td>
<td>Prerequisite: 10th graders with Instructor Approval</td>
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This course is designed as an introduction to the various aspects of the science of human behavior, including the study of theories of psychological growth and development, personality, mental health, substance abuse, and other areas of current concern.

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<th>Required to graduate</th>
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<tbody>
<tr>
<td>329</td>
<td>Economics</td>
<td>11</td>
<td>Semester</td>
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Economics is the study of the choices and decisions people make about how to utilize the resources of the world. This course is designed to give students an understanding of key economic principles that will assist them in making informed decisions and allowing them to assess the decisions of others.

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<th>Course Title</th>
<th>Year</th>
<th>Required to graduate</th>
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<tbody>
<tr>
<td>340</td>
<td>Government</td>
<td>11</td>
<td>Semester</td>
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</table>

This required course is designed to present an overview of the workings of the national government of the United States. Examination of local, state, and federal government systems will enable the student to understand the “whys” of the American political system as well as the structure of the system, and cultivate an appropriate sense of citizenship in students as active participants in our democratic society.

### Information Technology

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<th>Course Code</th>
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<th>Year</th>
<th>Required to graduate</th>
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<tr>
<td>600</td>
<td>Introduction to Computer Science</td>
<td>9-12</td>
<td>Semester</td>
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</table>

This introductory computer science course designed for all students takes a wide lens on computer science by covering topics such as programming, physical computing, HTML/CSS, and data. This course empowers students to create authentic artifacts (websites, apps, games, and physical computing devices) and engage with computer science as a medium for creativity, communication, problem solving, and fun. Note: This course will count towards the 0.5 credit graduation requirement for Computer Applications for the following graduating classes: 2019, 2020, and 2021.

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<th>Year</th>
<th>Required to graduate</th>
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<tbody>
<tr>
<td>615</td>
<td>AP Computer Science Principles</td>
<td>10-12</td>
<td>Year</td>
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<td>Prerequisite: Successful competition of Algebra I</td>
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An entry level course that introduces students to the foundations of modern computing. The course covers a broad range of foundational topics such as programming, algorithms, the internet, building apps, big data, digital privacy and security, and societal impacts of computing. This course assumes no prior knowledge of computing and is designed to support students that are new to the discipline. Students must pass first semester AP CSP to continue with the second semester of the course. Successful Completion of both semesters will prepare students for the optional AP Computer Science Principles Exam. * Can be taken as the 4th year math credit.
Science

400 Earth Science Semester 9
Required to graduate
This semester-long course is designed to give the student an in depth view of the more complex principles of Earth Science including Earth System Science, Historical Geology, Meteorology, and Astronomy.

404 Physical Science Semester 9
Required to graduate
This semester-long course is the study of the things around you. Physical Science can be divided into two areas. One area is chemistry. Chemistry is the study of matter and how it changes. A second area of physical science is physics. Physics is the study of energy and how it acts with matter. This semester-long course includes topics such as the metric system, properties of matter, the structure of matter, classifying elements, compounds, how matter changes, motion, work and machines, heat, sound and light, electricity, and magnets and electromagnetism.

410 Science Olympiad Semester 9-12
Science Olympiad is designed for students to explore and apply scientific knowledge and concepts for team competition. Projects involve scientific problem solving, real-life applications of science concepts, and research and exploration of science concepts pertaining to motion, heat, gravity, mass, air resistance, engineering and design, and more. This course will also help students learn how to problem solve as a scientific team in order to complete tasks efficiently and successfully. This semester course will run during the fall semester in order to prepare for Science Olympiad competitions.

420 Biology Year 10
Required to graduate
This course presents an overview of the world of living things. The structure, function, and interaction of one-celled organisms, plants and animals are stressed. Also studied is man’s influence on the delicate balance of the earth through ecological relationships.

430 Advanced Biology Year 11-12
Prerequisite: Biology
This course focuses on human anatomy and physiology. Human systems will be explored in-depth, with an intense study of system structures, functions, and diseases associated with those systems.

434 Chemistry Year 11-12
Prerequisite: Algebra I, Algebra II concurrently.
Option of a physics or chemistry class to graduate
This course introduces the principles of inorganic chemistry, including: energy and matter, atomic structure, electron configuration, chemical formulas and bonding, structure of compounds, stoichiometry, gas laws, solutions, and acids-bases-salts.

444 Advanced Chemistry Semester 11-12
Advanced Chemistry builds on the concepts presented in the first year Chemistry course and includes topics such as Gas Laws, Thermodynamics, Kinetics, Equilibrium, Oxidation-Reduction, Electrochemistry, Nuclear Chemistry, Organic Chemistry. This course will also involve more extensive laboratory work in preparation for college chemistry and/or the AP Chemistry exam. Completion of the AP exam is not mandatory for students taking this course.

438 Forensic Science Semester 11-12
Prerequisite: Biology
The design of this course is to introduce students to the chemical, biological and physical principles involved in the investigations of physical evidence in criminal cases. In addition, students will become familiar with the laws and procedures of a criminalist. Topics introduced include: Crime Scene, Physical Evidence, Fingerprint Analysis, Ballistics and Firearms, Forensic Toxicology, and Arson. Forensic Toxicology, Physical Evidence, Hair, Fibers and Paint, Fingerprint.

440 Physics Year 11-12
Prerequisite: Algebra II
Option of a physics or chemistry class to graduate
This year long course is the study of motion and the interaction of matter and energy in nature. The primary emphasis of content is to quantitatively define specific physical quantities and demonstrate how they interact in an everyday setting.

442 Applied Physics Year 11-12
Prerequisite: Physical Science
Option of a physics or chemistry class to graduate
Applied Physics is a lab centered study of the physical world. This class utilizes basic inquiry techniques to introduce topics to students through laboratory work. Students will be directed to perform certain experiments without them knowing how the data analysis should turn out to help them construct their knowledge. Topics will include: Motion, Vectors, Falling Bodies, Projectiles, Newton’s Laws, Friction, Linear Momentum, Circular Motion, Universal Gravitation, Rotation, Work, Power, and Energy, Electrostatics, Electrical Circuits, Magnetism, Electromagnetism, Optics and Waves.

490 Environmental Science: Ecosystems Semester 11-12
This course is designed to give students a hands on learning experience while introducing them to new concepts dealing with the environment and Earth’s resources. Using hand on lessons and labs, students will be able to explore, examine, and explain natural processes in all parts of the Earth Systems. Environmental Science I topics include: Environmental Issues, Soil Science & Land Use, Freshwater Resources, Ecological Biodiversity, Human Population Dynamics.

491 Environmental Science: Resources Semester 11-12
This course is designed to give students a hands-on learning experience while introducing them to new concepts dealing with the environment and Earth’s resources. Using hand-on lessons and labs, students will be able to explore, examine, and explain natural processes in all parts of the Earth System. Environmental Science II topics include: Energy Resources & Consumption, Pollution and its Effects, Sustainability, Conservation of Natural Resources, Global changes

495 Honors Chemistry Year 11-12
Prerequisite: Algebra II recommended concurrently.
Option of a physics or chemistry class to graduate
Honors Chemistry is designed for those students with a potential career interest or plan to study science beyond high school. In addition to learning about the principles of inorganic chemistry as covered in Chemistry, student in Honors Chemistry will learn the basic concepts involved in organic chemistry, biochemistry, and science career pathways. Furthermore, students will be provided lab experience beyond those taught in the general Chemistry class, which will better prepare the student for post-high school science coursework. This course is taken instead of Chemistry.
World Language

170 Spanish I Year 9-11
Spanish I is an introductory course in the study of the Spanish language and culture. It is designed to provide the basis for proficiency in all language skills: listening, speaking, reading and writing. Learning will focus on bringing new vocabulary and grammar into meaningful communicative situations. Students will also be introduced to the culture of various Spanish-speaking countries. Group work and individual responsibility are emphasized.

172 Spanish II Year 10-12
Prerequisite: Spanish I
Spanish II continues to build on the skills acquired in Spanish I, with increased emphasis on perfecting pronunciation, listening comprehension, developing vocabulary, use of verb tenses and language structure. Students are encouraged to communicate in Spanish appropriate to their level of language acquisition whenever possible. Students will continue to learn about the cultures of Spanish-speaking countries. Group work and individual responsibility continue to be emphasized.

174 Spanish III Year 11-12
Prerequisite: Successful completion of Spanish II/instructor recommendation.
Spanish III is intended to engage students in communication with spoken and written Spanish language. Students will continue to familiarize themselves with different perspectives of the target language culture through experiences with its products and practices. Through the study of thematic vocabulary and more advanced grammatical structures, students will be able to imitate appropriate gestures, intonation, and common idiomatic expressions through social interaction. The course continues to build on the four aspects of communication: listening, speaking, reading and writing. The course is strongly recommended for students planning to continue Spanish studies after high school.

180 French I Year 9-11
French I is an introductory course in the study of the French language and culture. It is designed to provide the basis for proficiency in all language skills: listening, speaking, reading and writing. Learning will focus on bringing new vocabulary and grammar into meaningful communicative situations. Students will also be introduced to the culture of various French-speaking countries. Group work and individual responsibility are emphasized.

182 French II Year 10-12
Prerequisite: French I
French II continues to build on the skills acquired in French I, with increased emphasis on perfecting pronunciation, listening comprehension, developing vocabulary, use of verb tenses and language structure. Students are encouraged to communicate in French appropriate to their level of language acquisition whenever possible. Students will continue to learn about the cultures of French-speaking countries. Group work and individual responsibility continue to be emphasized.

184 French III Year 11-12
Prerequisite: Successful completion of French II/instructor recommendation.
French III is a continuation of French II with even more emphasis placed on improving/perfecting the language skills. Students are encouraged to communicate in French whenever they are in the classroom. Further emphasis is placed on reading, writing, and listening skills. The study of the French-speaking world and related culture will continue. This course is strongly suggested for students planning to continue French studies after high school.

Health & Family Consumer Science

501 Health 9 Semester 9
Required to graduate
This required freshman level course investigates critical health issues and steps to take to improve one’s health. The major areas covered include: Nutrition and Physical Activity, Alcohol, Tobacco, Drugs, Safety, Social and Emotional Health, Personal Health and Wellness, HIV prevention and Sexuality Education. Individual wellness strategies and action plans are developed, encouraging ownership of one’s own health.

529 Mind, Body & Soul Semester 9-12
Mind, Body and Soul is a course that teaches the student that individual well-being involves all parts of the human body, not just physical aspects. This class will teach the student how to create a balance in life, reduce stress, and how to nurture the mental, emotional and physical needs of the whole person. The student will be expected to perform 1-2 days of different kinds of exercise per week and learn how to form healthy relationships with self and others.

660 Financial Management * Semester 9-12
Finance Management is designed to afford students the opportunity to develop their organizational and management skills in the area of budgeting, financial planning, and consumerism.

662 Health and Wellness Semester 10-12
Prerequisite: 501
This course is designed to allow students to apply healthy living concepts to everyday situations. Health and Wellness, Stress Management, Nutrition, and Lifestyle Choices are the focus of the class.

664 Parenting Semester 9-12
This class is designed to afford students insight into the responsibilities of parenthood and the appropriate expectations for the developmental stages of humans. Parenting and Parental Responsibilities, Principles of Growth and Development, and Human Reproduction and Childbirth are some of the topics presented in this course.

668 Interpersonal Relationships Semester 9-12
This course is designed to give students practical tools to lead them to a better understanding of themselves and the role they play within their families and their communities. Communication and relationship skills are at the core of this semester class. A unit on sexual decision making and building lasting relationships caps the course.

670 College and Career Exploration Semester 10-11
This course is designed to give students insight on possible career options and interviewing skills. Students will learn the process of furthering their education, including paying for, applying, and insight to schooling options. Also, students will learn the skills needed to live on their own and with others.

990 Work-Based Learning Semester Age Requirement
Work-Based Learning Programs are structured educational experiences that integrate classroom learning (school-based) with productive, structured work experiences (work-based), which are related to a student’s career goal, program of study, and employability skills.

*Satisfies MMC math credit required to graduate.

Students with two years of World Language study are eligible to participate in a two-week trip to Europe during the summer when planned.
## Fine Arts

### 700 Band *
**Prerequisite: Audition**

Band activities begin approximately two weeks before school starts in the fall. Student ensemble consist of wind and percussion instruments. Besides a regular school-day class hour, band students are required to perform at all home football games, Friday evening basketball games, concerts, festivals, and various parades. Participation in performances is reflected in grades and credit. Members are encouraged to perform solos and in ensemble during the school year and participate in honors band.

**Prerequisite:**  *Audition*  
**Year:**  *9-12*

### 702 Choir*

Choir is a one semester course for students with a desire to become better vocalists. This course stresses and practices the importance of good vocal technique and vocal health. Students will learn music reading skills through warm-ups, technique exercises, repertoire, and performances. The PHS Choir will perform outside of the school day and attendance at these performances are reflected within the final grade.

**Semester:**  *9-12*

### 710 Introduction to Art *

Introduction to Art is designed to be a class where students will go in-depth into 2-D design learning multiple techniques in drawing and painting. In this class, students will build knowledge of materials and techniques going further in-depth in developing artwork. The student will also build an understanding and ability to incorporate key principles and elements of design.

**Semester:**  *9-12*

### 711 Ceramics/Sculpture *

**Prerequisite:**  *Introduction to Art*  

Ceramics is a class designed to explore basic building, firing, and glazing techniques in pottery. Student will try to realize the potential of their creative spirit through the medium of clay. Also, students will explore how ceramics pertains to history and its effect on cultures throughout the world.

**Semester:**  *9-12*

### 714 Advanced Art *

**Prerequisite:**  *Introduction to Art*  

Students will expand on learned drawing and painting techniques while exploring new concepts and ideas. Emphasis will be placed on production of drawing and painting in an individual style, through the creation of both abstract and realistic works of art. Media such as pencil, pen and ink, chalk, pastel, charcoal, watercolor, oil, acrylics and mixed media will be used. A variety of surfaces such as wood board, scratchboard, and canvas will also be explored, while engaging in experiences that encompass art history, art appreciation and art criticism. Students will produce works for their portfolio.

**Semester:**  *10-12*

### 715 Graphic Design*

An introduction to elements of design, design principles, spatial relationships, typography and imagery as they apply to practical visual solutions for logo design, web design, illustrations, and product design. This course instructs the student in graphic design skills employing traditional and digital tools, materials, and procedures employed in the communication arts industry. The focus will be on finding creative visual solutions to communication problems using technical skills.

**Semester:**  *9-12*

### 720 Film Appreciation *

This course is designed for those who love movies and want to learn about them. Students will gain an appreciation for the roles of actors, directors and producers as they discover the human spirit reflected through film. Much more than just watching films, discussions and sharing of reviews will occur. Students will be expected to find additional films of a particular genre and then share them as they contrast and compare films.

**Semester:**  *9-12*

### 730 Technical Theater *

This course emphasizes the technical and design aspects of theater, including, but not limited to: set, costume, lighting and sound design. It is appropriate for anyone interested in the elements of design, art, or technical theater. Students will be required to create models or drawings of their designs. Much of this can be done with common household items, although some small supplies may need to be purchased. Assessment for this class is very project based.

**Semester:**  *9-12*

### 731 Drama *

**Prerequisite:** An interest in live theater/performances is recommended.

Students will learn the basic elements of stage awareness and acting. In addition, students will adapt literary works into performances, learn to critique a performance, analyze the elements of a script/text, and perform scenes and improvisations. No previous theater experience is required.

**Semester:**  *9-12*

### 735 Debate *

Debate is a course for the student who possesses a basic understanding of research skills and is an avid reader of political and current-event issues. Students develop critical thinking and analytical skills along with logic and impromptu speaking techniques in order to defend opposing sides of contemporary social issues. Student will focus on current policy proposals and have the chance to give their opinion based on facts.

**Semester:**  *9-12*

### 736 Broadcast*

Broadcast is a year-long media production class that will focus on creating and producing news through film. Students will learn the basics of storytelling and news production using basic video and audio production equipment. They will be asked to create individual projects that show their ability to speak publicly, and to handle film equipment successfully. Projects and responsibilities include: out of class time projects, i.e. reporting on sporting events, school events), strict timetables and assignment deadlines. Students must be able to work well with a team.

**Year:**  *9-12*

* Satisfies MMC Visual, Performing and Applied Arts credit required to graduate.
**Physical Education**

500 Physical Education 9  
Semester 9  
Required to graduate  
This required Physical Education course is designed to allow students to explore a variety of physical activities. Both team and individual activities will be emphasized in this course.

520 Team Sports  
Semester 9-12  
Prerequisite: PE9  
This class will take an in-depth approach to team sports and introduce some individual sports. More advanced skills, strategies, and rules are stressed. This class is tailored for the highly motivated and competitive physical education student.

522 Health Training  
Semester 9-12  
Prerequisite: PE9 and Instructor approval for Freshmen  
Physical fitness is the emphasis of the course. Each student will get the opportunity to develop a training program to meet their individual needs. Use of universal gym and free weights as well as activities that will enhance students cardiovascular fitness, muscular endurance, flexibility, speed, balance, and hand-eye coordination are our major objectives.

524 Advanced Health Training  
Semester 10-12  
Prerequisite: PE9 and Instructor approval  
Weight training and physical fitness for interscholastic athletics is the emphasis of this course. Students will enhance their strength, speed, flexibility, and agility.

527 Recreation & Sports  
Semester 9-12  
Prerequisite: PE9  
This activity based course will provide students instruction on traditional sports as well as a variety of recreation activities.

530 Total Fitness  
Semester 9-12  
Prerequisite: PE9  
Course Description: This course will focus on students achieving and maintaining a level of physical fitness for health and performance while demonstrating knowledge of fitness concepts, and strategies. Students will establish personal fitness goals, using principles of aerobics, strength and core training. Students will also be introduced to group fitness environments such as pilates, yoga, and kettlebell training.

**Counselor Assigned Options**

850 Independent Study  
Semester 11-12  
Prerequisite: Pre-approval from supervising instructor.  
Independent Study is available for students who want subject matter not available in the schedule or through current curriculum. Special arrangements must be made between the applying student, faculty member and counselor to set up goals and objectives for Independent Study. Course goals and objectives must be completed and turned into the main office no later than 1 week following the beginning of a semester.

860 Dual Enrollment  
Semester 9-12  
Prerequisite: Must meet eligibility as prescribed by law.  
Students may attend a public or private degree-granting postsecondary institution with written permission from the school counselor. State legislation directs districts to assist in the payment of tuition and fees for currently enrolled students taking approved classes from an approved post secondary institution after the successful completion or administration of standardized assessment as required by law. Students interested in dual enrollment need to contact the High School Counseling Office for more details. There is a separate handbook with dual enrollment guidelines.

880 LINKS  
Semester 11-12  
The LINKS course provides students an opportunity to be a role model, tutor, and friend while supporting students with disabilities in both academic and social settings under the supervision of the student’s case manager. LINKS earn .5 elective credit and make a commitment for an entire semester. LINKS participate in the program five days a week. They attend one class period with their student. LINKS keep a daily log and assess their student’s personal goals. They may help a student with academics, organization or filling out a daily planner for example. Good attendance is a must for this class.

**Portland Early College Program**
Portland HS plans to offer an Early College Program utilizing LCC High School Advantage courses. Students will be placed on a 5-year graduation plan which will allow them to earn 60+ college credits and/or an associates degree. To learn more please see your counselor.
Tour, Simunition Training, Court and Central Dispatch Training
defensive tactics, Dive Team, Traffic Stops, Taser Demonstration, Jail
students experience while attending Criminal Justice include: Red Man
first aid, defensive tactics, and patrol and police skills. Some activities
other criminal justice related careers. Students will experience areas
enforcement, probation, corrections, investigation, private security and
procedures necessary for continued education in the fields of law
enforcement, probation, corrections, investigation, private security and
other criminal justice related careers. Students will experience areas
of instruction to include law, ethics, investigations, physical conditioning,
first aid, defensive tactics, and patrol and police skills. Some activities
students experience while attending Criminal Justice include: Red Man
defensive tactics, Dive Team, Traffic Stops, Taser Demonstration, Jail
Tour, Simunition Training, Court and Central Dispatch Training
Simulator.

Heartlands Institute of Technology (HIT)

812 Aviation Technology* Year 11-12
• 1 or 2 Year Program 3 credits (2 semesters)
Aviation Technology is held at the Ionia County Airport on the on the
campus of School of Missionary Aviation Technology (SMAT). Some
topics first year students complete are: Aviation Safety, Metallic/
Non-Metallic Structures, Maintenance Forms, Alert Caution/Warning
systems, Aircraft Ground Operations, Aircraft Materials and Hardware,
Flight Controls, Fundamentals of Electricity, and many more. Second
year students advance their knowledge in these subject areas using
skills from their first year to work on and apply by completing bigger
projects such as assembly and modification of a helicopter, building a
scale model of a F16 and weather balloon project.

820 Computer Programming* Year 11-12
• 1 or 2 Year Program 3 credits (2 semesters)
Computer Programming focuses on mastering Microsoft Excel and
Access, HTML website building, Java, Javascript, CSS and Python
programming, develop leadership, teamwork skills, communication
skills, etc. Students will work towards Microsoft Office certifications.
Students will design a software application, produce (code) a computer
application, develop and maintain a database to store information. In
addition, students will be working with coding to use Arduino
Microprocessors, and designing and creating in the world of 3D
printing. Second year students will have the opportunity to design a
research proposal in an area of computer science and pursue these ideas.

814 Construction Technology* Year 11-12
• 1 or 2 Year Program 3 credits (2 semesters)
Students in construction will literally learn how to build our future!
They’ll perform math operations such as estimating and distributing
materials and supplies to complete jobsite/workplace tasks. All while
applying principles of physics as they relate to worksite/jobsite
situations to work with materials and load applications. Students will
also learn basic safety, problem solving, teamwork skills, building
materials, components, methods, and sequences in residential
construction. Second year students back to learn a higher level of
skills in construction related to trades along with an overview of
career opportunities available. The program partners with the Michigan
Regional Council of Carpenters Union, which allows students who
successfully complete the program with a seamless transition into a
construction career while being paid to further their education.

844 Criminal Justice* Year 11-12
• 1 Year Program 3 credits (2 semesters)
Criminal Justice provides a broad overview of criminal law and
procedures necessary for continued education in the fields of law
enforcement, probation, corrections, investigation, private security and
other criminal justice related careers. Students will experience areas
of instruction to include law, ethics, investigations, physical conditioning,
first aid, defensive tactics, and patrol and police skills. Some activities
students experience while attending Criminal Justice include: Red Man
defensive tactics, Dive Team, Traffic Stops, Taser Demonstration, Jail
Tour, Simunition Training, Court and Central Dispatch Training
Simulator.

830 Culinary Arts* Year 11-12
• 1 Year Program 3 credits (2 semesters)
Culinary Arts is designed to acclimate students to the fast-paced
restaurant industry by following the National Restaurant Association
Pro-Start curriculum. Students in Culinary Arts will perform a variety
of tasks to maintain operations and promote guest services. In
addition, students learn about: food and beverage production,
nutritional values of foods, proper cooking methods, and sanitation.
Running the Class Act Restaurant offers students the opportunity to
research costs, utilize a modern Point of Sale (POS) system, following
and understanding the importance of health, safety, and the
importance of occupational performance and regulatory compliance.
Students in Culinary Arts have the opportunity to take and obtain the
National Serv-Safe Certification.

821 Healthcare Foundations* Year 11-12
• 1 Year Program 3 credits (2 semesters)
The Healthcare Foundations course focuses on introducing students to
career opportunities available in the healthcare field including
medical, dental and vision. Students learn skills that they will be able
to use in a variety of healthcare settings. Topics include: safety,
communication, information technology, teamwork, legal/ethics,
apron anatomy and physiology, health maintenance, employability, body
systems including conditions/diseases, technical skills and medical
terminology. The course includes specific hands-on exploration in the
areas of dental & health careers including running the Heartlands’
Dental Clinic (alongside community dentists), Sparrow Ionia Hospital
clinic rotations & Life EMS paramedic rotations. Students have the
opportunity to earn their First Aid, CPR & AED certifications second
semester.

826 Diesel Technology* Year 11-12
• 1 Year Program 3 credits (2 semesters)
Diesel Technology is designed for students to work with agricultural,
material handling, or highway equipment. Students work in the
classroom learning about the various diesel engines and components.
The lab provides students with the opportunity to get hands-on
experience with diesel engines and other large scale equipment.
Students will perform the following duties as a journeyman
mechanic: servicing, maintaining, repairing, inspecting, cleaning,
dismantling engines and electrical systems, inspection, repair and
maintenance of hydraulics systems, diagnosing of internal combustion
engines, electrical components, transmissions, and heavy-duty brakes
and suspension. Proper setup and operation of vehicles, equipment,
and machines are a part of the job. Mechanics must often work
independently, solve problems, and perform work that is physically
demanding.

8221 Healthcare Foundations* Year 11-12
• 1 Year Program 3 credits (2 semesters)
The Healthcare Foundations course focuses on introducing students to
career opportunities available in the healthcare field including
medical, dental and vision. Students learn skills that they will be able
to use in a variety of healthcare settings. Topics include: safety,
communication, information technology, teamwork, legal/ethics,
apron anatomy and physiology, health maintenance, employability, body
systems including conditions/diseases, technical skills and medical
terminology. The course includes specific hands-on exploration in the
areas of dental & health careers including running the Heartlands’
Dental Clinic (alongside community dentists), Sparrow Ionia Hospital
clinic rotations & Life EMS paramedic rotations. Students have the
opportunity to earn their First Aid, CPR & AED certifications second
semester.

* Satisfies MMC Visual, Performing and Applied Arts
credit required to graduate

** Satisfies the Algebra II credit

All HIT programs may be taken in place of the 2nd year of
a world language
Heartlands Institute of Technology (HIT) cont.

834 Health Occupations* Year 11-12
• 1 Year Program 3 credits (2 semesters)
Health Occupations is designed for students to learn about various careers in the Healthcare field. Major components include: anatomy and physiology, medical terminology, medical math, CPR, First Aid, AED and professional clinical experience. The primary clinical experience opportunities are with Sparrow Ionia Hospital, Heartland Health Care Center & Life EMS. The curriculum is designed to meet the demands of the students and the changes in health care. Significant segments of class time are devoted to learning skills to be used in a nursing career; included are all aspects of personal care, taking vital signs, and learning transfer techniques. Students will learn the importance of proper communication, teamwork, safety, and exploration in information technology. At the completion of this course students will have the opportunity to sit for their Certified Nursing Assistant (CNA) exam.

838 Machine Tools** Year 11-12
• 1 or 2 Year Program 3 credits (2 semesters)
Machine Tool creates an environment with state-of-the-art industry equipment. Students learn functions and capabilities of engine lathes, drill presses, milling machines, grinders, cut-off saws, and radial drills. Computer controlled milling and manufacturing processes are taught using the latest technology in the machine industry. Second year students prove mastery of the machines and techniques used to make an advanced project. Students may also earn Algebra II credit in this class through successful completion of all Machine Tool curriculum in addition to state mandated math curriculum.

842 Plant/Animal Science Year 11-12
• 1 or 2 Year Program 3 credits (2 semesters)
The Plant/Animal Science program will prepare students for careers or further study in the areas of horticulture and animal science. Areas of study include: sustainable agriculture, horticulture, and greenhouse systems, as well as, animal anatomy/physiology, nutrition, reproduction, and health. Students will raise poinsettias, Easter lilies, annual bedding plants, chickens, pheasants, cattle, pigs, salmon and tilapia. Upon completion of the program, students will have gained a basic awareness of agriculture and animal science and will have learned how the diversity of product in agriculture leads to future opportunities in the field. All students participate in the Ionia County FFA Chapter.

* Satisfies MMC Visual, Performing and Applied Arts credit required to graduate

** Satisfies the Algebra II credit

All programs may be taken in place of the 2nd year of a world language
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