

Curriculum Guide



Marion Senior High School

2008-2009

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Graduation Requirements

Beginning with the 2005-2006 school year, a four-year phase in from 22 to 25 credits for graduation was approved by the Board of Education. Credit requirements are as follows:

Class of:	Credits Required for Graduation
2009	25
2010	25
2011	25
2012	25

Course Requirements for Graduation Class of 2009, 2010

English	4 Credits	<i>(including English IV as senior year requirement starting with class of 2009)</i>
Social Studies	3 Credits	<i>(including US History, Consumer Economics, and Government)</i>
Mathematics	3 Credits	
Science	3 Credits	
Health/PE	1 Credit	

Course Requirements for Graduation Class of 2011

English	4 Credits	<i>(including English IV as senior year requirement starting with class of 2009)</i>
Social Studies	3 Credits	<i>(including US History, Consumer Economics, and Government)</i>
Mathematics	4 Credits	
Science	3 Credits	
Visual, Performing, Applied Arts	1 Credit	
Health/PE	1 Credit	
Online Learning Experience		<i>(may be dually fulfilled; Example: Online Spanish courses fulfill elective credits toward graduation as well as the online learning experience requirement)</i>

**Required courses must be completed with a passing grade or repeated until a passing grade is earned.*

Grade Classification

For classification purposes, a student must have earned the following credits:

Grade Classification	Class of 2009	Class of 2010	Class of 2011
Freshman	> 6 Credits	> 6 Credits	> 6 Credits
Sophomore	6 Credits	6 Credits	6 Credits
Junior	11 Credits	12 Credits	12 Credits
Senior	17 Credits	18 Credits	18 Credits

****If the required number of credits is not achieved, a student will be reclassified at the beginning of the year based on the number of credits he/she has earned.*

Course Selections

- I. If a student is unable to participate in Physical Education class, a doctor's statement is required. The note will be placed in the student's permanent record and a course will be selected for the student to take in place of the PE course.
- II. Students are not advised to try advanced courses in any sequence in which they have not earned a "C" average in the first course.
- III. Select courses carefully and make choices with future career plans in mind.
- IV. Each class that meets for a full school year is worth one credit, while classes meeting for only one semester are worth one-half credit.
- V. If you wish to re-take a course for a higher grade, it is possible. See the counselor for details. Principal approval is required.
- VI. Students should choose classes that challenge their abilities, and they should plan their schedules with goals in mind.
- VII. Students enrolling in Special Education courses will be assisted in choosing their classes by the Special Education Coordinator, faculty members, or the counselor.

VIII. All students will set up an Educational Development Plan during the school year, which should be used during the scheduling process.

IX. College Preparatory Students - please note: Michigan's public universities have agreed that students must meet certain requirements to be eligible for regular admission into a four year degree program. For example:

English	4 Credits	Foreign Language	2 Credits
Mathematics	4 Credits	Fine/Performing Arts	2 Credits
Science	3 Credits	Students are Computer Literate	
Social Studies	3 Credits		

X. Students must pass the Michigan Merit Exam (MME) in order to receive an endorsed diploma. State endorsements may be acquired in mathematics, science, reading, writing, and social studies.

XI. Career Technical Center - Students have the opportunity to attend the Career Technical Center in Cadillac, MI, during their junior and/or senior year. Students may enroll in the program of their choice.

Information For Career Technical Center

1. To be eligible for the Career Tech. Center, a student should be at least a junior and must be at least 15 $\frac{1}{2}$ years of age.
2. Students will receive 2 credits per semester for successful participation at the Career Tech Center.
3. In order to schedule a course at the Career Technical Center, the Counselor must notify you of your acceptance to the program.
4. Programs offered at the Career Technical Center are:
 - Agriscience/Natural Resources
 - Automotive Services
 - Allied Health
 - Building Trades
 - Business Services
 - CAESI
 - Cosmetology

- Hospitality, Retailing, and Entrepreneurship
 - Heavy Equipment
 - Machine Trades/CAD
 - Metal Fab./Welding
 - Electronics
 - Small Engines
5. Basic Skill Equivalency Program: Marion High School students who attend Wexford Missaukee Career Technical Center can earn a portion of their basic skills credits through acceptance of academic competencies taught in the vocational education components of their education programs. Refer to the chart on the following page.

<u>Program</u>	<u>Math</u>	<u>English</u>	<u>Science</u>
Agriscience & Nat. Resc.	X		X
Allied Health		X	X
Automotive Services	X	X	
Building Trades	X		
Business Services	X	X	
Cosmetology	X	X	X
CAESI	X	X	X
Heavy Equip. Mechanics	X	X	
Hospitality, Retail, etc.	X	X	
Machine Trades	X	X	
Metal Fab./Welding	X		
Electronics	<i>to be determined</i>		
Small Engines	X	X	X

6. For complete information in regard to the Career Technical Center, students should contact the counselor.

General Procedures for Course Changes

A class change will be made only when the change contributes to the educational program of the student. *Changes are difficult to make due to class size, lack of scheduling flexibility, etc.* Following directions and appropriately utilizing the information provided during pre-registration will do much to alleviate the need for any class changes. Class changes should be made prior to the start of the school year and during registration week.

- A. Students who desire to make a class change at the beginning of the first week or second semesters must do so before the start of the second week of classes. In an extenuating circumstance, where the principal or counselor believes that a student is definitely in a class that he or she should not be in, this time period might be extended.

- B. The following procedure is required for class changes:
 - 1. Students who desire a class change should contact the counselor and request that a class be changed. The counselor will review the student's record of achievement, aptitude, interest, and educational program as well as contact the teacher involved to ascertain the situation within the class.

 - 2. If the counselor determines that there is an acceptable reason for a class change, the counselor will then determine if the change is feasible in accordance with the following:
 - a. Whether or not an acceptable alternative exists for another class.
 - b. Whether or not there is adequate space for another student to enter the alternate class.
 - c. Students who do not comply with the given timelines or fail to adequately complete the pre-registration form will have their classes assigned to them. They will also necessitate the forfeiting of future schedule adjustments.
 - d. A parent's signature is required for a student to transfer out of a required class.

Course Offerings

REQUIRED COURSES

<u>Course</u>	<u>Grade</u>	<u>Credits</u>
<u>English = 4 Credits</u>		
English I	9	1
English II	10	1
English III	11	1
English IV (Class of 2009)	12	1
Creative Writing II	11-12	.5
Contemporary Lit. II	11-12	.5
<u>Social Studies = 3 Credits</u>		
Current Events	9-12	.5
United States History	9	1
World History	10	1
World Geography	9-12	.5
Sociology	9-12	.5
Psychology	10-12	.5
American Government	11	.5
<u>Mathematics = 4 Credits</u>		
Algebra I	9	1
Geometry	10	1
Algebra II	11	1
FST	11-12	1
Pre-Calculus	12	1

Course	Grade	Credits
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Science = 3 Credits

General Science	9	1
Biology 10	10	1
Ecology	11-12	1
Physiology	11-12	1
Botany	10-12	1
Zoology	10-12	1
Forensics	12	1
Chemistry	11-12	1
Physics	11-12	1

Physical Education = 1 Credit

Health	9-12	.5
Physical Education	9-12	.5
Strength and Conditioning	10-12	1

Life Management/Social Studies

Consumer Economics	11	.5
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ELECTIVE COURSES

<u>Course</u>	<u>Grade</u>	<u>Credits</u>
<u>Computer Science</u>		
Computer Applications I	9-12	.5
<u>Music</u>		
Instrumental Music	9-12	1
Vocal Music	9-12	1
Music Appreciation	9-12	.5
<u>Art</u>		
Art I	9-12	.5
Art II	10-12	1
Art III	11-12	1
Art IV	11-12	1
<u>Industrial Education</u>		
Shop I	9-12	1
Shop II	10-12	1
Shop III	11-12	1
Shop IV	12	1
<u>Life Management</u>		
Family Living	9-12	.5
Parenthood	9-12	.5
Personal Living	9-12	.5
Nutrition and Foods	9-12	.5
<u>Foreign Language - online</u>		
Spanish I	9-12	1
Spanish II	10-12	1

Vocational Education

Career Technical Center (CTC)

11-12

4/year

COURSE DESCRIPTIONS

(An asterisk "*" denotes a semester course)

English Classes

English Language Arts I (Freshmen)

The goal for English Language Arts I is to build a solid foundation of knowledge, skills, and strategies that will be refined, applied, and extended as students engage in more complex ideas, texts, and tasks. In ELA I, Grade 9, students will be introduced to the various genre of classic and contemporary narrative and informational texts that will be read and analyzed throughout high school. Ninth graders will connect with and respond to texts by analyzing relationships within and across families, communities, societies, governments, and economies. Through the lens of Inter-Relationships and Self-Reliance, they will consider how they build relationships, how their relationships impact others, and their responsibility to society. *Students must successfully complete English Language Arts I before enrolling in English Language Arts II. This course is required for graduation.*

English Language Arts II (Sophomores)

(Prerequisite: English Language Arts I) The goal for English Language Arts II, Grade 10, is to continue to build a solid foundation of knowledge, skills, and strategies that will be refined, applied, and extended as students engage in more complex ideas, texts, and tasks. In ELA II, Grade 10, students will add to the list of various genre of classical and contemporary narrative and informational texts read and analyzed throughout high school. An emphasis will be placed on American Literature. Tenth graders will connect with and respond to texts to balance and expand their perspectives promoting empathy, social action and appropriate use of poser. Critical Response and Stance offers students the lens to assess and modify their beliefs, views of the world, and how they have power to impact them. *Students must successfully complete English Language Arts II before enrolling in English Language Arts III. This course is required for graduation.*

English Language Arts III (Juniors)

(Prerequisite: English Language Arts I & II) The goal for English Language Arts III, Grade 11, is to continue to build a solid foundation of knowledge, skills, and strategies that will be refined, applied, and extended as students engage in more complex ideas, texts, and tasks. In ELA III, Grade 11, students will add to the list of various genre of class and contemporary narrative and informational texts that will be read and analyzed throughout high school with a special focus on British and World literature and ACT success. Eleventh graders will connect with and respond to texts through transformational thinking. They will learn to use forward thinking to help make better decisions, to generate new ideas for solving problems, and to find wisdom. They will build a context for change in their lives and develop realistic plans for the future. *Students must successfully complete English Language Arts III before enrolling in English Language Arts IV. This course is require for graduation.*

***Contemporary Literature II (Juniors, Seniors)**

(Prerequisite: Grade C or higher in English I & II and Contemporary Literature I) This is an elective course for 11th and 12th grade students who wish to read some of today's most intriguing and thought-provoking novels and works of non-fiction. Students will read, discuss ideas, listen to lectures, write short papers and essays, and make class presentations about contemporary authors and their works. *This course does not count toward English credits for graduation beginning with class of 2009.*

***Creative Writing II (Juniors, Seniors)**

(Prerequisite: Grade C or higher in Creative Writing I). This is an elective course designed to give 11th and 12th grade students the opportunity to write their own poetry and short stories. Additionally, students will read a variety of contemporary poetry and short fiction pieces and respond to it through class discussions, peer editing, presentations, and writing activities. *This course does not count toward English credits for graduation beginning with class of 2009.*

Social Studies Classes

United States History (Sophomores)

The first semester of this course covers the period of time from the first inhabitants to the end of the Civil War. This includes a study of Indian civilizations, early explorers, colonization, English institutions and influence, causes and the results of the American Revolution, an analysis of the U.S. Constitution, problems of the infant republic, causes and results of the War of 1812, sectionalism, the Jacksonian Era, territorial expansion, slavery, and causes and results of the Civil War. Second semester covers the period of time from reconstruction to the present. This includes a study of the problems and results of Reconstruction, "Big Business", the causes and results of World Wars I and II, prosperity and depression, the Eisenhower years, Viet Nam, the "New Frontier", other more current Presidential administrations, as well as present problems and possible alternatives. *This course is required for graduation.*

***Psychology (Sophomores, Juniors, Seniors)**

This course is designed to introduce students to a variety of theories in psychology, which is the study of the mind. Students will examine the various realms of psychology including, but not limited to, learning and cognition, personal relationships, social adjustment, personality, attitudes, perceptions, and social influence. This course does count toward the fulfillment of a social studies graduation requirement.

***United States Government (Juniors)**

The course will cover a study of political and economic systems, a brief analysis of the Constitution, immigration and citizenship, responsibilities and rights of persons, political parties, and taxation. This course compares the major functions, departments, and agencies of the National and State governments. Material will be covered by reading assignments, term papers, special projects, special reports, bulletin boards, analysis for meetings, films, tapes, slides, guest speakers and lectures.

Mathematics Classes

Algebra I

Algebra is a method of solving complex problems involving numbers. A considerable portion of the time is spent learning the language, symbols, and methods of algebra in preparation for future courses. At the same time, the student should expect to become better able to handle various number problems of an everyday sort because of a better knowledge of how numbers may be used.

Algebra I Support

This course is designed to be taken concurrently with Algebra I. Student placement in this course is based upon individual needs, grades from previous math courses, and teacher recommendation. This course will follow the Algebra I curriculum adding additional support in pre-algebra and basic skills needed to succeed in Algebra I.

Geometry - (Prerequisite: Algebra I)

A major portion of this subject is devoted to the study of plane (flat) figures, their shape, size, measure, etc. An important feature of the course is the study of formal logic (systematic thinking) as it applies to mathematics. Some solid (3D) figures are studied, and some of the study is done in a manner utilizing ideas learned in algebra. Students interested in going into areas such as drafting, sheet metal work, carpentry, and others where materials must be manipulated in complex manners may find parts of geometry useful, but its emphasis is for students planning to continue their study of mathematics.

Algebra II - (Prerequisite: Algebra I & Geometry)

This course is a continuation of Algebra I and expands on the goals of that course. Students will expand their knowledge of the language and symbols of mathematics, the structure of a mathematical system, and the systematic application of mathematics to the solution of problems.

Functions, Statistics, and Trigonometry - (Prerequisite: Algebra I/II, Geometry)

FST integrates statistical and algebraic concepts, and previews calculus in work with functions and intuitive notions of limits. Technology is provided for student use in plotting functions, analyzing data, and simulating experiments.

Calculus - (Prerequisite: Algebra I/II, Geometry, FST)

Distance Learning class offered to students who have completed FST.

Science Classes

General Science (Freshman)

The initial course of the high school science curriculum. It is an introduction to the major areas of science --Physical Science, Earth Science and Life Science. The development of a more scientifically literate student continues to be the goal of the Science Department; this course is designed with that goal specifically in mind. *This course is a requirement for graduation.*

Biology 10 (Sophomores) - Prerequisite: General Science

The first half of this course concentrates on Earth Science concepts. Historical geology of Michigan, weather studies, and plate tectonics are the focus during this first half of the year. The second half of the year focuses on the life science concepts of heredity, natural selection, and ecosystems. *This course is a requirement for graduation.*

Ecology (Juniors, Seniors) - Prerequisite: General Science & Biology

Ecology is an elective course that studies the relationships between the living and non-living parts of our world. The goal of this course is to increase student awareness of these relationships but also is to understand our own connection with the environment. The course will require a large amount of time outdoors and in the community working on various projects. It is recommended that students electing to enroll in this course have the time, desire, and responsibility to participate in projects beyond the classroom.

Physiology (Juniors, Seniors) - Prerequisite: Biology

Physiology is an in-depth study of all the systems of the human body.

Chemistry (Juniors, Seniors) - Prerequisites: General Science, Biology, and Algebra II

This is the study of the matter we and our environment are made of and the changes that matter undergoes as it is combined and treated in various ways. Students planning to go into almost any higher technical field should elect this course. A strong background and continuing math program is needed.

Physics (Seniors) - Prerequisite/Co-requisite: Algebra II

This course covers a broad range of topics, including the principles behind the functioning of machines, sound, light, heat, electricity, magnetism, and atomic energy. The treatment is as mathematical as possible and the student should have had or be taking Algebra II. A graphics calculator is provided.

Forensics (Seniors) - Prerequisite: Physiology

This class is designed to be an introduction to the scientific strategies and skills used by crime scene investigators. They will be introduced to "Who Done It" scenarios and activities to help develop an appreciation for science and its techniques. Due to the technical level of this course, prior completion of Physiology is *highly* recommended.

Zoology (Juniors, Seniors) - Prerequisite: General Science

Zoology is the study of animals. Students will learn about, search for, care for, and educate others about the many different groups of animals that exist. From insects to mammals, the class is a "hands-on" class and requires students to interact with living and non-living animals in and outdoors. Students will learn both from their own investigations and the studies of others. It is recommended that students electing to enroll in this course successfully complete Biology.

Botany (Sophomores, Juniors, Seniors) - Prerequisite: General Science

Botany is the study of plants. In addition to the basic study of a plant's parts and functions, students will learn about how plants respond to changes, how soils affect plant health, and the many uses of plant materials. Students will develop their ability to gather information and learn both from their own investigations and the studies of others. It is recommended that students electing to enroll in this course successfully complete Biology.

Physical Education Classes

***Health (Freshmen)**

Health education is that continuum of learning experiences which enables people, as individuals and as members of social structures, to make informed decisions, modify behaviors, and change social conditions, in ways which are health enhancing. Students learn to obtain, interpret, and apply health information and services in ways that protect and promote personal, family and community health. *This course is required for graduation.*

***Physical Education (Freshmen)**

This class is designed to provide the student with participation in physical fitness activities, team sports, individual sports and body awareness activities. Through individual discipline, the students learn rules associated with games, sportsmanship and body coordination. Another goal of introducing the students to these activities is that they will actively pursue some activity in their leisure time to promote mental and physical fitness. *This course is required for graduation.*

Strength and Conditioning (Sophomores, Juniors, Seniors) - (Prerequisite: Physical Education)

The purpose of this course is to provide a level of knowledge and active participation in the area of strength and conditioning. Students will practice proper lifting techniques and workout design three times each week. Two days per week students will enjoy fitness activities to improve cardiovascular activity. Strength and Conditioning is a class that will individualize the student's personal fitness plan and an excellent workout for the serious-minded athlete.

Computer Science Classes

General Business (Freshmen, Sophomores, Juniors, Seniors)

***Computer Applications I (All grades)**

Computer Applications is a course that involves the following areas: (1) computer literacy (2) common application of computers (3) ethical usage (4) introduction to programming. Interested students should have done reasonably well in Freshman Math.

Music Classes

Instrumental Music

Instrumental Music develops various music skills through performing many types of music. Attendance is required at concerts, rehearsals, and trips held outside of regular school hours. The class is open to all high school students, grades 9 through 12.

Vocal Music

The High School Choir is designed to give students an opportunity to work together in a musical setting through various styles of music. It encourages the development of the singing voice, as well as the ability to read and understand music, while stressing the importance of group effort. Attendance is required in class, concerts, and trips outside of regular school hours. An audition/interview may be required before admission into the course.

***Music Appreciation (All grades)**

This course will deal with 3 different ideas; 1) Learn and compose music notation, 2) Identify different music styles, and 3) Written reports on a music group or individual performer.

Art Classes

***Art I (All grades)**

A one semester introduction to various art materials. Drawing is emphasized with some works in three-dimensional materials.

Art II - (Prerequisite: Art I)

This is a one-year course designed for continued experimentation of varied art materials. Students begin to develop art skills and techniques.

Art III - (Prerequisite: Art II)

This is a one-year, advanced art class for continued work with various media. Students may begin to specialize in one art form and will have more freedom to express their own artistic styles.

Industrial Education Classes (Woodworking)

Shop I (Beginning Cabinetry)

This class is intended for the highly committed student who wants to learn the art of furniture making. Students who elect this class will learn how to safely use shop machinery, draft and build a piece of furniture as well as learn many different wood working skills and techniques. All students will have to take a machine safety test and score 80 percent or better before operating any machines.

Shop II (Intermediate Cabinetry) - Prerequisite: C- or better in Shop I

Students will go through a machine safety review and must pass a machine safety test before starting a project. Students enrolled in this class may build a piece of furniture of their choice. Students will continue to use the skills they learned in Shop I. Shop II requires students to work independently on their own projects. Students are encouraged to enter their projects in the M.I.T.E.S. craftsmanship shows.

Shop III (Advanced Cabinetry) - Prerequisite: C- or better in Shop II

Students will go through a machine safety review and must pass a safety test before starting a project. This class is the same as Shop II, but more emphasis is placed on using woodworking techniques and skills. Students enrolled must be able to work independently and are encouraged to enter their projects in the M.I.T.E.S. Craftsmanship Shows.

Shop IV (Fine Furniture Making) - Prerequisite: Instructor Approval

Students will go through a machine safety review and test. Students enrolling in this class will design and construct a piece of top quality furniture. Students enrolling will work independently on their project and must enter their project in the M.I.T.E.S. Craftsmanship Shows.

Life Management Classes

***Consumer Economics (Juniors)**

Students develop the ability to function in our economic system using critical thinking skills and sound consumer decision-making practices, while examining primary economic principles. Simulation exercise will be used to help students gain experience in using these skills. (This class does count toward the fulfillment of the social studies graduation requirement.) *This course is required for graduation.*

***Family Living (All grades)**

This course develops knowledge of roles and tasks of various family structures. Various family forms are studied to examine functions, roles, family life cycles/stages, and changes within a family. Current issues relating to family life will be examined for students to gain awareness of and skills to cope with situations, such as family conflict, forms of abuse, divorce, remarriage, and death of family members.

***Parenthood Education (All grades)**

Students will be introduced to a wide range of topics designed to prepare them for the responsibilities of parenting. The course examines personal readiness to become a parent, human reproduction, care of children, and the social, emotional, physical, and intellectual development of children. Current issues related to parenting and childcare will be analyzed throughout the course.

Foreign Language Classes - Available Online

Spanish I (All grades)

This class introduces many of the basic principles of the language. The emphasis is on pronunciation with vocabulary, simple sentence structure and fundamental grammatical concepts. This is a self-motivated, one-year course.

Spanish II (All grades) - Prerequisite: Spanish I

Listening and speaking skills will be further developed along with a continuation of grammatical study. This is a self-motivated, one-year course.

Vocational Education (Career Technical Center)

Agri-Science - Two-year course designed to provide preparation for entry into many fields of employment such as conservation aide, engineering aide, lumber yard helper, game area manager, park ranger, equipment operator, greenhouse worker, animal caretaker, landscaper, and forest fire aide to name a few.

Automotive Services - This two-year course is designed to provide preparation for entry into many fields of automotive services. Coursework and class experience provide the knowledge needed to grow with the latest technological changes in the automotive field today.

Building Trades - In this course you will develop skills in completing the construction of a residential home, such as applying shingles, siding, and installing windows, drywall, doors and frames, paneling, trim, cabinets and stairs. You may then qualify for employment in one of the following areas: home construction, carpentry, repair and remodeling of homes and other buildings, roofing, plumbing, electrical or masonry work.

Business Services - In Business Services and Technology you will develop specific skills in one of many occupations identified in data processing, secretarial studies or accounting and computing. The classroom operates as a simulated office with many hands-on practices. You will be using the most up-to-date and advanced equipment available.

Cosmetology - Cosmetology is a program regulated by the Michigan State Board of Cosmetology. The program consists of 1600 hours of classroom and laboratory work and preparation for taking the State of Michigan Licensing Examination. You will learn many practical skills and the technical aspects of the trade.

Electronics - Instruction includes the study of theory as well as hands-on training. You will learn to service all consumer electronic devices, including videocassette recorders and microcomputers.

Allied Health Technologies - Your first year will be spent in a combination of classroom and clinical settings learning general patient care, body mechanics, medical terminology and use of various medical equipment, just to name a few.

During the second year, a co-op placement might be planned, certification in the home health care field, or related training in physical therapy, dental hygiene, etc.

Hospitality, Retailing & Entrepreneurship -The first year will be spent building basic skills in the classroom, kitchen, dining room, and out in the community. These skills cover areas such as guest services, clerical duties, cash systems, safety and sanitation, job-related mathematics, as well as learning how to work in a commercial kitchen and dining room environment. The second year of the program, students work in the student-operated restaurant, the " 13th Street Cafe" and go out in the community to do work exploration or co-operative education in career areas of interest to the individual students. Travel and tourism is also a part of this class.

Machine Trades - By learning this precise trade, you will learn to shape metals on machines such as lathes, grinders, drill presses, milling machines, and band saws. You will also use measuring tools and mathematical formulas in calculating operations necessary to machine parts. All machinery and equipment in the shop is full size industrial machinery, similar in all respects to what is used in area machine shops.

Business Services & Technology - Students will learn about sales, merchandise display, business operation and management, advertising, cash register operation, record keeping, and the use of modern computerized perpetual inventory systems using UPC codes.

Computers & Electronic Systems Integration -This two-year course is designed to prepare you for entry into a drafting-related occupation. A draftsman translates the ideas and rough sketches of engineers and architects into working plans. These plans are then used in making a product. After mastering manual drafting techniques, you will move on to the fundamentals of computer-aided design. All equipment is the most advanced available in the area.

Metal Fabrication and Welding - Helium arc, M.I.G., oxy-acetylene and conventional arc welding are among the different processes you will learn. You will also learn to operate power shears, brakes and slip-roll benders, as well as drill presses, grinders and other metal working equipment.

Robotics and Automation -The study of basic electronics and electricity, digital electronics, mechanical power transfer, hydraulics and pneumatics will open doors not only in the industrial field but in agriculture, aerospace and medical equipment maintenance.

Small Engines - Small engine repairers diagnose, adjust and repair small gasoline engines used to power boats, motorcycles, lawnmowers, garden tractors and snowmobiles. A thorough knowledge and understanding of the internal combustion engine is essential before actual repair jobs are attempted. It will also be your responsibility to order parts, schedule and complete the job, make a price list and satisfy the customer.

Heavy Equipment- Students will learn shop safety, work habits and the technical skills necessary to successfully pass certification areas to be heavy equipment mechanics. Instruction and training will focus on Diesel Engines, Brakes, Electrical and Electronic Systems, and Preventive Maintenance. Exposure to suspension and steering, drive train, air conditioning and hydraulics will also be included. Students will spend a portion of their time in the classroom with lectures and coursework, then practice acquired skills in the shop.

Independent Study

Independent Study is the opportunity for students to complete coursework on their own time while being monitored by a Marion High School teacher. Independent Study opportunities are reserved for Seniors in need of additional credits in order to graduate on time or students who have scheduling complications. Students must find their own teacher to work with, complete an Independent Study Form, and be granted final approval from the counselor and principal.