MARSHFIELD

RAMS

Marshfield High School

Program of Studies
2016-2017
Marshfield High School
Program of Studies

2016-2017
Principal
Robert E. Keuther, Jr.

Assistant Principals
William Battis
Cheryl O’Brien

Head Guidance Counselor, Caralie Ford

Guidance Counselors: Amanda Bénard, Daniel Carlon, Tammie Lewis, Susan Smith, Michael Ruuska

Art Coordinator……………………………………………………………………Meghan Dinsmore
Comprehensive Health Coordinator…………………………………………Marybeth Battis
Computer Science Director………………………………………………….Jason Soslow
English Department Head……………………………………………………Rock Roberts
Mathematics Department Head………………………………………Lindsay-Leigh Consolati
Music Director…………………………………………………………………David Kaminski
Science Department Head………………………………………………….Lesley Dimond
Social Studies Department Head………………………………………Stephen Waisgerber
Special Education Department Head……………………………………Heather O’Neill
Technology Education Director…………………………………………John Kenny
World Language Department Head………………………………………Maura Bulman
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Dear Student:

Marshfield High School has a rich tradition of academic excellence. Our Academic prowess is formed upon our commitment to rigorous course offerings that prepare our students for college placement and career opportunities. Our Mission is to empower our students to pursue their intellectual and personal potential. Your aspirations and dreams can be recognized at Marshfield High School through the decisions you make, the courses you choose, and the attitude you bring daily to the classroom.

The purpose of this Program of Studies is to help students and parents make choices from the range of courses available at Marshfield High School. Our performance-based curriculum is aligned with the Common Core Standards and Frameworks established by the Massachusetts Department of Education. Comprehensive examinations in English, Mathematics and Biology, administered in the 10th grade, must be passed in order to be eligible for a Marshfield High School Diploma. In addition, our comprehensive curriculum allows you the opportunity to prepare yourself for any career. The selection of an appropriate program of studies requires careful thought. It is essential that you keep your career interests in mind in the selection of your program of studies, and students are encouraged to try new course areas that stimulate new interests. Students are encouraged to be ambitious, but also realistic in their course selection.

At Marshfield High School, a vast amount of time and effort is dedicated to assist students in selecting courses which best fit each student’s academic needs and interests. The course selection process is designed to ensure that students, parents, teachers and counselors all contribute to the decision making process. It is important that you strictly adhere to the necessary course prerequisites. Due to enrollment constraints flexibility in scheduling will be limited and opportunities to change courses will be restricted.

It is our hope that, in selecting your program each year, you will challenge yourself academically to pursue your maximum potential. Your academic accomplishments will determine your future college placements and career opportunities. I wish you much success in the upcoming school year.

Sincerely,

Robert E. Keuther, Jr.
Principal

Our Mission… The development of 21st Century learners who make responsible, informed decisions within the global community.
MARSHFIELD HIGH SCHOOL

Core Values Statement

Our commitment at Marshfield High School is to offer a comprehensive school with equal opportunity for every student. In collaboration with students, families, and our community, we provide a safe and respectful environment empowering our students to pursue their intellectual and personal potential. We are dedicated to a rigorous curriculum that develops 21st century learners who make responsible, informed decisions within the global community.

Learning Expectations

All students will be able to read effectively.
All students will be able to write effectively.
All students will be able to communicate effectively.
All students will be able to problem solve effectively.
All students will be able to use 21st century technology effectively.
All students will be able to participate in civic and social environments effectively.
GUIDANCE SERVICES

The Guidance Department of Marshfield High School provides a comprehensive and developmental school counseling program designed to promote the academic, personal/social, and post-secondary potential of its students. Counselors work with students to foster independent thinking, problem-solving, creative collaboration, personal and social responsibility and life-long learning. The Guidance Department strives to enhance students’ understanding of themselves in light of their aptitudes, interests and talents, as revealed through testing, academic performance and counseling discussions. Although the primary focus is on students, an integral component to student success lies in the establishment of positive and supportive relationships between counselors, parents and administrators as well.

Counseling services to assist with educational, vocational and personal matters are available to all students and parents. Students are assigned to the same counselor for four years based on an alphabetical breakdown. The school counseling curriculum is infused through advisory sessions, classroom meetings and Canvas applications. Counselors meet with students both individually and in groups regarding academic performance, post-secondary and career planning, personal issues, crisis intervention, assessment and high-risk behavior prevention.

The Guidance Department coordinates college fairs, a scholarship program and a variety of evening presentations for parents on topics related to transitioning to Marshfield High School, The College Selection and Application Process, Financial Aid, and Early College Planning. Parents are invited to meet with counselors and/or teachers at any time to ensure each student’s opportunity for academic and personal success while at Marshfield High School. Working together, we feel we can help each student to reach his or her greatest potential. For a list of links and events please visit our webpage on the high school website under the “Parent” tab.

Academic Information

GRADUATION REQUIREMENTS

Four credits are awarded for the successful completion (grade of D or better) of each full year course. Successful completion of courses which meet for less than a full year earns credit on a pro-rated basis.

In order to receive a Marshfield High School diploma, students must earn 96 credits including the courses listed below, and pass the state required competency determination assessment through participation in MCAS testing.
Required Courses:

- **ENGLISH** 16 Credits (English 1, 2, 3 and 4)
- **MATHEMATICS** 12 Credits (8 from Math dept.) (3 yrs required, 4 recommended)
- **SOCIAL STUDIES** 16 Credits (World Cultures, U.S. Hist 1 & 2. Govt/Ec or AP Euro.)
- **SCIENCE** 12 Credits (including Biology)
- **WORLD LANGUAGE** 8 Credits (in the same lang) (2 yrs required, 3 recommended)
- **COMPUTER APPLICATIONS** 4 Credits (see below for options)
- **ARTS** 4 Credits (see below for options)
- **HEALTH** 2 Credits (9th grade Health, 11th grade Health)
- **PHYSICAL EDUCATION** (Must take and pass all 4 years)

Courses That Fulfill MHS Graduation Requirements

**Science/Tech Ed Requirement:**

The third year Science requirement may be fulfilled by passing any course from either the Science or the Technology Education Department (not including Business Technology Courses).

**Computer Requirement:**

The computer requirement may be fulfilled by passing any one of the courses listed below:

- 646 Micro Office Suite I
- 637 BASIC
- 674 Tech and Prog. Essentials
- 670 Creative Digital Design
- 695 Digital Media
- 729 Technology of Printing
- 675 Tech Service and Support
- 757 Computer Aided Drafting (CAD)
- 8010 Music Theory 1
- 8030 AP Music Theory

**Mathematics Requirement**

The third year Math requirement may be fulfilled with a course from the Math department or by passing one of the following:

- 641 College Accounting
- 621 Contemporary Math

**Arts Requirement:**

The Arts requirement may be fulfilled by passing any course from the Art or Music department, or one of the following:

- 155 Intro to Theater
- 156 Acting I
- 713 Principles of Nutrition
- 717 Technical Drawing
- 718/719 Manufacturing Technology
- 737 Architectural Drawing
- 738 Woodworking
- 725 Construction Tech
- 727 Drafting and Design
- 728 Engineering Design
COMPETENCY DETERMINATION:
MASSACHUSETTS COMPREHENSIVE ASSESSMENT SYSTEM (MCAS)

Marshfield High School’s curriculum is designed to meet the state frameworks upon which the MCAS tests are based. Support services and tutorials are provided for students who may be at-risk for passing the exams.

In accordance with State mandates, all Marshfield High School students must earn a score of 220 or higher on the English Language Arts, Mathematics and Science/ Technology MCAS exams in order to receive a competency determination for graduation from high school.

In addition, beginning with the class of 2010, students who score between a 220 (“Needs Improvement”) and a 240 (“Proficient”) will be required to successfully complete an Educational Proficiency Plan (EPP) developed by the school in the subject area(s) for which the student has not yet acquired proficiency. This change was made to increase the likelihood that graduates of Massachusetts high schools have the knowledge and skills needed to succeed in college and in the workforce. EPPs ensure that students continue to receive instruction in the subject area and that they are assessed to determine if the student is moving toward the goal of proficiency.

Additional information regarding these state requirements can be found at the Massachusetts Department of Education website at www.doe.mass.edu or by contacting your guidance counselor.

COURSE CREDIT

All students must take a minimum of six major classes, equivalent to 24 credits per year. In addition, Physical Education must be taken and passed every year.

Courses meeting:
- 3X per 6 day cycle for a full year = 4 credits
- 3X per 6 day cycle for a half year = 2 credits
- 6X per 6 day cycle for a full year = 8 credits

1X per 6 day cycle for full year = 2 credits
1X per 6 day cycle for half year = 1 credit
Physical Education receives no credit

The High School Principal will be responsible for interpretation of transfer credits from other schools and will determine graduation requirement fulfillment in any unusual circumstances.

PROMOTION

Eligibility for promotion to the next grade level requires that the student earns a minimum number of credits each year. It is the student’s responsibility to select a program with sufficient credits for promotion each academic year and to make adjustments when necessary due to failure or lack of prerequisite grades.

- Promotion to grade 10 requires 24 credits (20 for probationary status)
- Promotion to grade 11 requires 48 credits (44 for probationary status)
- Promotion to grade 12 requires 72 credits (68 for probationary status)

ATTENDANCE

Daily attendance is essential to a student’s academic progress and achievement and is the responsibility of the student and parent, together with the best efforts of teachers and administrators. A maximum cooperative effort of all will result in a maximum academic experience for the student.
A STUDENT WHO EXCEEDS TEN (10) ABSENCES IN A FULL YEAR COURSE OR FIVE (5) ABSENCES IN A HALF-YEAR COURSE WILL RECEIVE THE EARNED GRADE BUT WILL NOT RECEIVE CREDIT FOR THE COURSE.

Absences that COUNT toward the 5 or 10 consecutive days absence:
1. Illness unless verified by a physician’s note.
2. Family trips, employer interviews, driver’s license tests, medical appointments, bereavement of a non-family member.
3. Tardiness and/or dismissals that result in the loss of more than twenty minutes of class time (three tardies = one unexcused absence).
4. Truancy and class cuts.
5. Out of School suspensions*.

Excused Absences (do NOT count toward ten day maximum):
1. Death in immediate family.
2. Medical absence with a physician’s note.
3. Religious holidays.
4. Court appearances.
5. School sponsored and/or approved activities.
6. Three documented college visits (seniors only).

Where necessary, documentation should be received by an administrator no later than five school days following the student’s return to school. Questions regarding the determination of an absence relative to the ten day rule will be decided by the principal.

*Ordinarily, absences incurred due to Out-of-School Suspensions are not excused. However, in extenuating circumstances these absences may be appealed to the principal.

IMPORTANT: The 10 day absence policy is not to be interpreted as permission to be absent from school for 10 days. Absence should only be for a serious reason.

Note: For information concerning the Attendance Appeals Board, Final Exemption and Attendance Awards, please refer to the student handbook.

LONG-TERM ABSENCES DUE TO MEDICAL ISSUES

If a student is expected to be out for four days or more for an excused absence, the guidance counselor should be notified by the parent who will then notify the teachers. Family trips are not sanctioned and are unexcused absences and therefore it is the student’s responsibility to have their schoolwork completed upon return from a trip.

With a referral from their counselor, students with long-term excused absences qualify for the M.A.S.T. Program (Marshfield After School Tutoring) which is available on Tuesdays and Thursdays from 2-4 p.m. in the MHS Library. With the supervision and assistance of three high school faculty members, students are provided an opportunity to make up missed assignments, tests, and quizzes so they may utilize in-school and at-home time to focus on their current work.

In cases where a student is deemed medically unable to attend school, in-home tutoring will not begin until the student has been absent, or is expected to be absent, for nine consecutive days, (or by an amendment to a student’s IEP). All medical and/or psychological issues requiring in-home tutoring must be documented by a medical doctor on the Physician’s Statement for Temporary Home or Hospital Education form. This form is available in the Guidance office or by download at [http://www.doe.mass.edu/sped/28mr/28r3.doc](http://www.doe.mass.edu/sped/28mr/28r3.doc). Once approved by the Special Education Office,
tutoring services will be out-sourced and one hour of tutoring per subject per week, will be provided. However, as classroom instruction is an integral part of the learning process, in-home tutoring may not exceed two terms (one semester), or credit for the course will not be awarded.

COURSE GUIDELINES

Marshfield High School offers a curriculum in which students can choose subjects according to their individual needs, interests and abilities. While some Marshfield High School graduates may choose not to go immediately on to college, the curriculum is designed to support a graduating senior’s college and career readiness.

In order to meet the needs of students, courses are offered at various levels of instruction. While courses may share the same core curriculum and texts, the pace, assessment and supplementary materials will differ in response to student skill levels and content mastery. Curriculum is designed to challenge all students regardless of level. Teacher recommendations and/or course prerequisites are the primary factors involved in determining level placement. Students must have an A- in a class to move up a level and a B- is required to remain in Level 0 or Level 1. The school reserves the right to withdraw any course due to insufficient enrollment.

Levels of Instruction

Courses detailed in this Program of Studies indicate the willingness of Marshfield High School to provide appropriate educational opportunities for all students to learn at their own pace and in an environment which is conducive to their academic abilities and needs. Students are encouraged to plan a course of studies for four years that allows for required courses as well as elective courses that highlight or enhance a particular skill or interest. Students who intend to continue their education after graduation should pay close attention to college admissions requirements when planning a four-year sequence. General level descriptions and expectations are detailed below. Students are advised to seek input and take advantage of the advice from teachers, counselors, administrators and parents/guardians when planning their program of studies.

Advanced Placement: Advanced Placement (AP) courses involve a prescribed curriculum approved directly by the College Board. The coursework is considered college level and is designed to be very rigorous and challenging. Students seeking enrollment in an AP course should speak with their current teacher, their counselor, the AP teacher and their parents, as well as reviewing each course description before making this commitment. Students who enroll in an AP course are required to take the AP exam in May and have the opportunity to earn college credit based on their performance on the exam. The exam fee is determined by College Board and is $92.00 per exam for the 2016-2017 academic year. Financial assistance is available to students who are eligible for free or reduced lunch.

Honors (Level 0): Honors courses are recommended for students who demonstrate a high level of academic achievement, motivation and aptitude and seek a competitive academic experience. These courses involve considerable enrichment and acceleration of content material. Instruction assumes that students are able to grasp concepts on initial presentation and emphasize higher order thinking in analysis, synthesis and evaluation. Students are expected to show initiative with respect to organization of time, long-term assignments, and seeking extra help. A considerable amount of outside reading and study is required. Courses at the AP and Honors level qualify students for admission to those colleges generally described as “most competitive”.

Level 1 (Accelerated College Preparatory): These courses are designed for those students who desire a challenging academic experience. Courses are demanding and the pace is rigorous. Instruction involves enrichment and expectations for above average achievement. Student work requires thoughtful application and analysis of content and in the development and integration of themes and concepts. Outside reading, writing and study precede and
follow classroom discussions. Coursework at Level 1 qualifies students for admission to “competitive” four-year colleges and universities.

**Level 2 (Standard College Preparatory):** These courses are designed to develop a thorough understanding of the fundamentals of a subject, the skills needed to comprehend relevant material and the application of concepts. Directed instructional support is provided by the teacher with the goal of building independent study skills. Outside reading, writing and study precede and follow classroom discussions. Level 2 coursework qualifies students for two and four-year post-secondary programs.

**MARKING SYSTEM**

Students are evaluated with a report card four times during the year. Mid-term progress reports are available to parents of students at mid-term via Aspen. Senior transcripts to college reflect only final year grades for years 9-11 and quarter grades for senior year.

Each letter grade represents a range of numerical grades as follows:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Numerical Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>96.5-100</td>
</tr>
<tr>
<td>B+</td>
<td>86.5-89.49</td>
</tr>
<tr>
<td>C+</td>
<td>76.5-79.49</td>
</tr>
<tr>
<td>D</td>
<td>64.5-69.49</td>
</tr>
<tr>
<td>A</td>
<td>92.5-96.49</td>
</tr>
<tr>
<td>B</td>
<td>82.5-86.49</td>
</tr>
<tr>
<td>C</td>
<td>72.5-76.49</td>
</tr>
<tr>
<td>F</td>
<td>0-64.49</td>
</tr>
<tr>
<td>A-</td>
<td>89.5-92.49</td>
</tr>
<tr>
<td>B-</td>
<td>79.5-82.49</td>
</tr>
<tr>
<td>C-</td>
<td>69.5-72.49</td>
</tr>
<tr>
<td>(no credit)</td>
<td></td>
</tr>
</tbody>
</table>

“W” indicates withdrawal from a course, no grade. INC the course has not been completed.

For the purpose of Honor Roll and extra-curricular eligibility, an “incomplete” has the same status as an “F” until the work is made up within two weeks of the term end.

**HONOR ROLL**

High Honors - All grades of A with one B- allowed
Honors - All grades of B- or better
The above includes all graded subjects with the exception of Physical Education.

**GRADE POINT AVERAGE**

The cumulative academic Grade Point Average (GPA) is one of several measures used by colleges to assess a students’ course of studies and relative academic strength and potential. Marshfield High School reports a **weighted** GPA which is calculated by utilizing a standard 4.0 grading scale and assigning an additional .5 value for each increased level of academic difficulty (see chart below). Only **leveled courses** are computed into a student’s GPA. An unweighted GPA factors all leveled courses **without** assigning additional weight to Level 1 and Level 0 classes. Grades earned in summer study or enrichment courses may appear on the transcript but are not included in the GPA computation.

The cumulative weighted GPA is reported at the end of grade 11 and again after first semester senior year.
Weighting Differential

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>AP-Level 0</th>
<th>Level 1</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.3</td>
<td>4.8</td>
<td>4.3</td>
</tr>
<tr>
<td>A</td>
<td>5.0</td>
<td>4.5</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>4.7</td>
<td>4.2</td>
<td>3.7</td>
</tr>
<tr>
<td>B+</td>
<td>4.3</td>
<td>3.8</td>
<td>3.3</td>
</tr>
<tr>
<td>B</td>
<td>4.0</td>
<td>3.5</td>
<td>3.0</td>
</tr>
<tr>
<td>B-</td>
<td>3.7</td>
<td>3.2</td>
<td>2.7</td>
</tr>
<tr>
<td>C+</td>
<td>3.3</td>
<td>2.8</td>
<td>2.3</td>
</tr>
<tr>
<td>C</td>
<td>3.0</td>
<td>2.5</td>
<td>2.0</td>
</tr>
<tr>
<td>C-</td>
<td>2.7</td>
<td>2.2</td>
<td>1.7</td>
</tr>
<tr>
<td>D+</td>
<td>2.0</td>
<td>1.5</td>
<td>1.0</td>
</tr>
<tr>
<td>F</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

Class Rank

Class rank is determined by ranking every student’s cumulative GPA in descending order and is run at the end of junior year and again following the first semester of senior year. A student must be enrolled at Marshfield High School from the beginning of their sophomore year to be calculated into class rank. The class valedictorian and salutatorian are determined at the close of first semester senior year.

Extra-curricular/Athletic Academic Eligibility

A student must be passing five 4-credit subjects or the equivalent with a grade of C- or better, and Physical Education, in the marking period immediately preceding his/her participation, to be eligible for extra-curricular or athletic activities. Incompletes are considered failures for eligibility purposes until the work is completed and a grade is given. Fall eligibility is based on a student’s final year grades in the previous year.

NCAA Division I and II Eligibility Requirements

Specific eligibility requirements must be met by any student athlete planning on participating at the Division I or II level in college. NCAA Division I requires 16 core courses with a minimum GPA of 2.30 in those courses, and uses a sliding scale to determine GPA and standardized testing requirements. NCAA Division II currently also requires 16 core courses with a minimum GPA of 2.0 and a combined SAT score of 820 or an ACT sum of 68. Any student anticipating Div I or Div II participation in college must register by senior year with the NCAA Clearinghouse at www.ncaaclearinghouse.net. A full description of the Core Course requirements and eligibility criteria can be found on the website.

Massachusetts State College and University Minimum Admissions Standards

The Mass. Board of Higher Education has defined minimum requirements for students being considered for admission to any of the four-year state colleges and universities. These standards emphasize a strong academic high school
background so that students are college-ready upon matriculation. The eligibility requirements represent minimum standards for admission and meeting these standards does not guarantee admission. The standards do not apply to the State’s Community Colleges which maintain open admissions policies.

- **Core Course requirements include**: English- 4 years, Mathematics- 4 years (Algebra 1 & 2, Geometry and 1 other), Science- 3 years (2 lab sciences), Social Science- 2 years (1 U.S. History), Foreign Language- 2 years (in a single language), and Electives- 2 years (from the above subjects, arts, humanities or computer science).

- **Minimum GPA requirement of 3.0.** For those candidates who do not meet the minimum GPA, a sliding scale consisting of GPA and SAT scores may be applied. However, no applicant with a recalculated GPA below 2.0 may be admitted to a four-year state college or university. Students should consult with guidance or go to [www.mass.edu](http://www.mass.edu) for additional information.

**MARSHFIELD CONTINUING EDUCATION PROGRAMS**

**Evening and Summer Schools**

The Marshfield High School Continuing Education Programs are intended to be an adjunct to the regular school day, not to supplant it. These courses enable students to complete work to earn academic credit and work in small groups with experienced, capable teachers.

**Continuing Education Regulations:**

1. **Academic Credit:**
   a. Credit may be earned only if the student has previously completed but not gained credit for that subject during a regular school year.
   b. If a student attends summer school in order to meet prerequisite requirements for a course, the student must pass a departmental qualifying exam prior to being enrolled in the next course sequence.
   c. Level of Credit: Courses taken for make-up are all Level 2 classes and will appear on the student’s transcript but will not be computed in the GPA. The grade from the original class will remain.

2. **Academic Requirements:**
   A student must have earned at least a 50% average in a course during the school year in order to be eligible for summer and evening school.

3. **Attendance Requirements:**
   A student must have met the attendance policy requirements established for the regular school year (i.e. class absences may not exceed 10; 5 for half year classes).

The High School Principal may amend these regulations at his discretion.
The Program of Studies and Course Selection Process

Courses outlined in the Program of Studies reflect the intent of Marshfield High School to provide educational opportunities that encourage students to maximize their intellectual potential. A great deal of time and effort is devoted to assisting students in the selection of those courses which best fit the student’s academic needs and interests. To be effective, the selection process is designed to ensure that students, parents, teachers, and school counselors, all contribute to curriculum decision-making by thoughtfully reviewing course options. There is no way to build a schedule that satisfies every student’s wishes, and no one should expect to do so. Our primary objective is to provide quality teaching, a well-balanced curriculum, and an atmosphere of excellence which challenges students, yet allows them to achieve success.

Each year, the master schedule is built and faculty is assigned based on the information provided by parents and students during the course selection process. Therefore, requests for changes after this time will only be honored in cases where a scheduling conflict exists, the student’s level recommendation has changed, a pre-requisite grade has or has not been met, or insufficient enrollment prevents the running of a course. Requests based on a change of mind, wanting or not wanting a particular teacher, not realizing what a course would be like, or wanting to be with friends, are inappropriate reasons for a schedule change and will not be honored. For this reason, courses should be chosen carefully, with thought, planning and input from faculty, guidance and parents/guardians.

Naturally, situations arise in which course changes become necessary, and we will strive to accommodate each student as best we can. In the event a change is warranted, the following procedures apply:

Level Change Requests
In the spring, teachers work closely with students, counselors and their department heads to make appropriate recommendations for student’s levels for the following year. Counselors meet individually with every student to review teacher recommendations and to ensure that student’s programs are appropriate for their continued academic success and future goals. In May, teachers re-visit their initial level recommendations and may make changes based on a student’s final average or the student’s inability to meet the required prerequisite.

If a parent is in disagreement with a teacher’s recommendation, the parent is encouraged to speak directly to the teacher and/or department head to facilitate understanding about the reasons for the recommendation. In order to override a teacher’s recommendation, the student must complete a Level Change Appeal Form, which is reviewed by the department head and either approved or not approved. If not approved, and a parent chooses to override the Department Head’s decision, the request shall be honored, but the student will be required to remain in the requested course for the entire quarter and will receive the grade earned. As changing courses and course levels can be disruptive to a student’s schedule and academically problematic, proposed changes will only be allowed if space/resources can accommodate them.

Prerequisites
The study of certain subjects requires an adequate foundation of initial success in a previous course. These prerequisites are included in the course descriptions where applicable. In some cases there is a grade which must be attained in the prior course before the student may take the course. Questions regarding course prerequisites may be directed to the content area department head.

Waiver Policy
A course prerequisite may be waived with written permission of the Principal. To attain a waiver the student must complete a Pre-requisite Waiver Request and submit it to the Department Head. Decisions regarding waiver requests are based upon the Department Head’s recommendation, the student’s record and available space.
English
World Language
Social Studies
The Marshfield High School English Department offers a sequential program of courses designed to prepare students for study at the college level. The goal of the English Department is to fulfill the mission and student learning expectations of Marshfield High School by fostering in each student the greatest possible facility in the skills and arts of language and literature. To achieve this goal, the English Department offers courses that are designed to continually develop and refine a student’s ability to read, write, listen, speak and think. Along with these intellectual and communication skills, our courses are intended to broaden a student’s perspective and independent thought as he or she develops the humanistic values traditionally associated with the study of literature. Students interested in furthering their experience in English Language Arts beyond what is required can choose to take any of the following electives: Introduction to Theatre, Acting 1 & 2, and Technical Theatre. All students enrolled in core English classes at MHS are required to complete summer reading assignments.

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Honors</th>
<th>Acc. College</th>
<th>Std. College</th>
</tr>
</thead>
<tbody>
<tr>
<td>110 English I</td>
<td>111 English I</td>
<td>112 English I</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>116 English-Reading Concentration</td>
<td></td>
</tr>
<tr>
<td>Grade 10</td>
<td>120 English II</td>
<td>121 English II</td>
<td></td>
</tr>
<tr>
<td>Grade 11</td>
<td>134 AP Language &amp; Composition</td>
<td>131 English III</td>
<td></td>
</tr>
<tr>
<td>Grade 12</td>
<td>140 AP English Literature &amp; Comp</td>
<td>141 English IV</td>
<td></td>
</tr>
</tbody>
</table>

Electives: 155 Intro to Theater, 156 Acting 1, 157 Acting 2, 153 Technical Theater

**ENGLISH CONFERENCES**
The English conference periods offer individual and small group conference instruction during all four blocks each day. Conferences are held in the Writing Lab where English teachers are available to assist students with any problem they may be experiencing with their writing. Students may be assigned to conference by their English teacher or may voluntarily sign into the conference room. This program is designed to help students who:

1. Are experiencing difficulties in the writing program
2. Have tests and quizzes to make up
3. Are experiencing difficulties in adjusting to a new level
4. Have missed essential classwork or are simply having trouble with present work
5. Desire help in preparing college applications
6. Desire help in planning individual MCAS or SAT preparation
NINTH GRADE COURSE OFFERINGS

110 English 1  Prerequisite: A- in Grade 8 Level 1 or teacher recommendation 4 Credits

This program is for the student who is academically talented in language arts. The level zero English student is inherently drawn to the study of literature; is a voracious reader and loves to write both in and out of class; strives for accuracy and fluency in all modes of discourse; and embraces the rigorous demands of both the discipline and the course. This program focuses on developing basic skills for a mature interpretation of literature, critical thinking, and analytical expository discourse. The ultimate goal is to make the student an independent learner.

Course Outline  Level: 0
Introduction to Shakespeare  Introduction to mythic patterns, rituals, and archetypes
Introduction to poetic terminology  Review of terminology used in the analysis of fiction
Introduction to the elements of the novel  Introduction to basic technical research skills
Introduction to the elements of drama  Vocabulary study through word origins
Summer reading evaluations  Introduction to satire
Completion of a writing portfolio

111 English 1  Prerequisite: B- in Grade 8 Level 1 or teacher recommendation 4 Credits

This college preparatory program covers a study of the organization and critical thinking skills required in writing longer compositions and analyzing a variety of literary genres. The course also includes units on usage, vocabulary, communications, and research skills.

Course Outline  Level: 1
Introduction to Shakespeare  Introduction to mythic patterns, rituals, and archetypes
Introduction to poetic terminology  Review of terminology used in the analysis of fiction
Introduction to the elements of the novel  Introduction to basic technical research skills
Introduction to the elements of communication  Introduction to the epic genre
Summer reading evaluations  Vocabulary study
Completion of a writing portfolio  Introduction to satire

112 English I  Prerequisite: None 4 Credits

This standard college preparatory course covers a study of fundamental and critical thinking skills required in writing longer compositions and in analyzing a variety of literary genres. The course also includes units on vocabulary, communications, and research skills.

Course Outline  Level: 2
Introduction to the elements of the novel  Completion of a writing portfolio
Introduction to Shakespeare  Introduction to mythic patterns, rituals, and archetypes
Introduction to poetic terminology  Review of terminology used in the analysis of fiction
Introduction to basic technical research skills  Expository writing skills with focus on std. written English
Introduction to the epic genre  Vocabulary study
Summer reading evaluations  Introduction to satire

116 English 1 with a Concentration in Reading  Prerequisite: Teacher recommendation 4 Credits

This course provides students with a small group instruction model that focuses on developing reading fluency, comprehension and vocabulary as students engage in the standard English I curriculum. In this program, students receive individualized attention based on their needs so that they will meet with success as they continue their studies at Marshfield High School.
Course Outline  Level: 2
Introduction to the elements of the novel
Introduction to Shakespeare
Introduction to poetic terminology
Introduction to basic technical research skills
Introduction to the epic genre
Summer reading evaluations
Completion of a writing portfolio
Introduction to mythic patterns, rituals, and archetypes
Review of terminology used in the analysis of fiction
Expository writing skills with focus on std. written English
Vocabulary study
Introduction to satire

TENTH GRADE COURSE OFFERINGS

120 English II  Prerequisite:  B- in  English 110 or teacher recommendation  4 Credits

This program of advanced work challenges the students through longer compositions and research papers to attain writing skills which are primarily analytical, expository and argumentative. Through the study of literature and independent reading, the student should become a sensitive, responsible reader able to interpret a text critically. A major research paper is required.

Course Outline  Level: 0
Summer reading evaluations
Informative speech
Descriptive, comparison, contrast and persuasive writing
Understanding of fiction, nonfiction & literary terminology
Reinforcing research skills
Grammar skills
English Literary periods
Analysis of critical essays
Writing research papers and other analytical essays
Understanding mythic and Biblical archetypes
Further understanding of dramatic and tragic elements
Analysis and interpretation of poetic elements
Vocabulary development through the study of words/origins
Completion of a writing portfolio

121 English II  Prerequisite:  C in English 111 or teacher recommendation  4 Credits

Through a study of archetypal patterns, the Arthurian legend, Shakespeare, and English Literature, this accelerated college–preparatory program establishes a base for a fuller appreciation of literature. Emphasis is placed on the mastery of basic rhetoric, writing longer compositions and research projects. A major research paper is required.

Course Outline  Level: 1
Summer reading evaluations
Understanding the cyclical and dialectical cycles in literature
Review and application of fictional terminology
Vocabulary unit – aggressive word challenge
Completion of a thematic research paper
Application of poetic terminology
Understanding of archetypes within literature and life
Understanding the Shakespearean play/tragic hero
Appreciation of epic genre
Introduction of mature/interpretative literature
Analysis of critical essays
Further analysis of the novel
Completion of a writing portfolio

122 English II  Prerequisite:  None  4 Credits

This standard college-preparatory program develops further skills in language, writing, speech, and vocabulary building essential to effective performance at the college level. A variety of readings, including Shakespeare and the Arthurian legend, provide background for perceptive appreciation of literature. A major research paper is required.

Course Outline  Level: 2
Summer reading evaluations
Understanding the cyclical and dialectical cycles in literature
Review and application of fictional terminology
Understanding the Shakespearean play/tragic hero
Appreciation of epic genre
Introduction of mature/interpretive literature
Vocabulary unit – aggressive work challenge
Completion of a research paper
Application of poetic terminology
Analysis of critical essays
Further analysis of the novel
Completion of a writing portfolio

ELEVENTH GRADE COURSE OFFERINGS

134 AP English Language and Composition  Prerequisite: B- in English 120 or teacher recommendation.  
4 Credits

Students in this introductory college level course read and carefully analyze a broad and challenging range of prose selections, deepening their awareness of rhetoric and how language works. Through close reading and frequent writing, students develop their ability to work with language and text with a greater awareness of purpose and strategy, while strengthening their own composing abilities. Students are required to take the Advanced Placement Exam in English Language and Composition; satisfactory performance may lead to advanced placement, college credit, or both. Seniors may take AP Language and Composition by gaining signed approval from the English department head.

Course Outline  Level: AP
Summer reading evaluation
SAT Preparation
A wide variety of texts and writing tasks provide focus for an energetic study of language, rhetoric, and argument. Students prepare for the AP Exam in English Language and Composition.

131 English III  Prerequisite: C in English 121 or teacher recommendation  
4 Credits

This accelerated college-preparatory program offers a survey of American Literature. Language skills are reinforced as necessary. The application of skills in composition, literary analysis, and research is continued at an advanced level and an accelerated pace. SAT review is included in the curriculum.

Course Outline  Level: 1
Writing book reviews
Review strategies and practice exercises for PSAT and SAT
Study modes of discourse & write essays based on models
Review elements of satire
Analyze & interpret poetry
Further analysis of the novel
A formal literary analysis is required
Summer reading evaluations
Understanding & appreciating the history of American Literature
Continued study of Shakespearean tragedy
Reinforce technical research skills
Knowledge of myths, ethics & tragic hero patterns & archetypes
Completion of a writing portfolio

132 English III  Prerequisite: None  
4 Credits

Developing analytical and critical abilities is the primary objective of the standard college preparatory course. Through the study of major American writers, the student is encouraged to move from concrete to abstract reasoning. Frequent written work emphasizes exposition, analysis, and research. Language skills are reinforced as necessary. SAT review is included in the curriculum.

Course Outline  Level: 2
Writing book reviews
Review strategies and practice exercises for PSAT and SAT
Study modes of discourse & write essays based on models
Review elements of satire
Analyze & interpret poetry
Further analysis of the novel
A formal literary analysis is required
Summer reading evaluations
Understanding & appreciating the history of American Literature
Continued study of Shakespearean tragedy
Reinforce technical research skills
Knowledge of myths, ethics & tragic hero patterns & archetypes
Completion of a writing portfolio
TWELFTH GRADE COURSE OFFERINGS

140 AP English Literature & Composition  Prerequisite: B- in English 134 or teacher recommendation.  4 Credits

The course follows the prescribed College Board National Advanced Placement Program in English Literature and Composition. The purpose of this course is to challenge the student with what is generally presented in an introductory college course in composition and literature. Students are required to take the Advanced Placement Exam in English Literature & Composition; satisfactory performance may lead to advanced placement, college credit or both.

Course Outline  Level: AP
Summer reading evaluation  Introduction to existential philosophy
College application essay process  An interdisciplinary study of the individual as constructor and/or receiver of meaning
AP exam prep  Using Shakespeare to teach duality of man theme
Analyzing and interpreting modern and postmodern literature (novel, drama and poetry)  Continuation of dystopian literature
Introduction to critical theory  Examination of voice and diversity within literature
Literary research  Critical approach to film as it relates to literature

141 English IV  Prerequisite: C in English 131 or teacher recommendation  4 Credits

The literature in this accelerated college-preparatory program challenges the student’s ability to deal with increasingly abstract materials and focus upon English and world literature. Student writing is expected to be idea-centered, logically developed and individual in style.

Course Outline  Level: 1
Summer reading evaluations  Introduction to philosophy in literature
Emphasis on world literature  Development of the college essay
Further exploration of drama  SAT writing and preparation
Analysis of dystopian literature  A formal literary analysis is required
Completion of a writing portfolio  Further analysis of Shakespearean tragedy

142 English IV  Prerequisite: None  4 Credits

This standard college-preparatory program includes a diverse range of literature from English and world literature. The writing program emphasizes exposition, close analysis and personal writing leading to the development of the college essay.

Course Outline  Level: 2
Summer reading evaluations  Introduction to philosophy in literature
Emphasis on world literature  Development of the college essay
Further exploration of drama  SAT writing and preparation
Analysis of dystopian literature  A formal literary analysis is required
Completion of a writing portfolio  Further analysis of Shakespearean tragedy

ELECTIVE COURSE OFFERINGS – descriptions of course offerings in Theater Arts, see page 88.
WORLD LANGUAGES

Language teachers want to teach as much language as possible to as many students as possible. Reading is the main concern in the teaching of Latin; comprehension of the Latin language is the key in the beginning course to successful reading of Latin authors or stories explaining classical civilization. French and Spanish courses aim at helping the student acquire speaking, listening, reading and writing skills in these modern languages. Cultural sensitivity is a fifth skill, thus the history, art and customs of those peoples make up an important part of classroom study. Language students are grouped according to their capabilities and, when possible, may be moved during the course of the year if their progress is faster or slower than their original class placement.

Course offerings in Modern and Ancient Languages at Marshfield High School are as follows:

<table>
<thead>
<tr>
<th>FRENCH</th>
<th>Average Level</th>
<th>Advanced Level</th>
<th>Honors</th>
</tr>
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<tbody>
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<td>French I, 315</td>
<td>French I, 313</td>
<td>French IV, 330</td>
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<td>French II, 312</td>
<td>French II, 311</td>
<td>AP French, 351</td>
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Typical sequence of courses by grade is:

<table>
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<tr>
<th>Grade 9</th>
<th>French I² 313, 315</th>
<th>French II³ 311, 312</th>
<th>Latin I³ 318, 319</th>
<th>Spanish II² 326, 327</th>
<th>Spanish IA 325</th>
<th>Spanish IB 324</th>
<th>Notes:</th>
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<tr>
<td>Grade 10</td>
<td>French II 313, 312</td>
<td>French III 321, 322</td>
<td>Latin II 328, 329</td>
<td>Spanish III 336, 337</td>
<td>Spanish IB 324</td>
<td>Spanish II 327, 326</td>
<td>1. Students may elect to begin French I, Spanish IA or Latin I with no grade prerequisite, but are advised to elect the foreign language course level that corresponds to their current English course level.</td>
</tr>
<tr>
<td>Grade 11</td>
<td>French III 311, 322</td>
<td>French IV³ 330, 331</td>
<td>Latin III 338</td>
<td>Spanish IV² 350, 346</td>
<td>Spanish II 327, 326</td>
<td>Spanish III 337, 336</td>
<td>2. To begin here, French I and Spanish I must have been completed in grade 8. Teacher recommendation required.</td>
</tr>
<tr>
<td>Grade 12</td>
<td>French IV 330, 331</td>
<td>French V³ 340, 341</td>
<td>Latin IV 348</td>
<td>Spanish V² 360, 356</td>
<td>Spanish III 337, 336</td>
<td>Spanish IV 346, 350</td>
<td>3. An Honors level offering is possible in French and Spanish since students have been able to begin each in middle school and thus complete a 5th year of study.</td>
</tr>
</tbody>
</table>

* Students must attain an A- to begin Honors courses and a B to continue, and attain a C or better to continue in other level courses. Students who receive a C-in a level one course may, with department head approval, continue the following year at level two.
FRENCH OFFERINGS

Students are strongly advised to elect the French course level which corresponds to their current English course level.

### 313 French I- level 1 / 315 French I- level 2
Prerequisite: None

In this novice course students will learn to speak and understand simple sentences, read short passages and write short passages in French. The course will focus on developing strong speaking and listening comprehension skills. Cultural content will emphasize the daily life and customs of French-speakers, especially teens. This is a dual level novice course. Student's academic level will be designated by the instructor at the close of first term.

#### Course Outline
- Greetings
- Likes and dislikes
- Leisure activities
- Numbers
- Classroom objects
- Physical descriptions
- Family and pets
- School subjects
- Calendar and weather
- School supplies and colors
- Sports and activities
- Breakfast foods and café
- Clothing and accessories
- House hold chores
- House and furniture
- Places in a city
- Means of transportation
- Travel

### 311 French II
Prerequisite: B+ avg. in grade 8 French, or in French I 315/313 and teacher recommendation.

In this intermediate course, a continuation of French I, 313, the student will strengthen his/her skills in speaking and understanding spoken French. Vocabulary and language structure will be further developed through simple written compositions, short readings and oral presentations in French and participation in the target language during class discussions.

#### Course Outline Level: 1
- Describing friends and family
- Morning routine
- After-school activities
- Daily routine
- Celebrations
- Childhood activities
- Party Preparations
- Country life
- Fruits, vegetables and cooking
- Camping
- Food shopping
- Nature and animals
- School places and events
- Parts of the body; injuries & illnesses
- Computer terms
- Improving one’s health

### 312 French II
Prerequisite: C+ in grade 8 French or C in French I 315/313 and teacher recommendation.

In this course, a continuation of French I, 315, attention is given to further development of basic skills (speaking, listening, reading, and writing). Vocabulary and language structures will be developed through short readings and dialogues, compositions, class presentations and class discussions.

#### Course Outline Level: 2
- Describing friends and family
- Morning routine
- After-school activities
- Daily routine
- Celebrations
- Childhood activities
- Party Preparations
- Fruits, vegetables and cooking
- Food shopping
- School places and events
- Computer terms

4 Credits
321 French III  Prerequisite: C in French II, 311  4 Credits

In this accelerated intermediate course, a continuation of French II, 311, the student will be expected to use his/her knowledge of language structure and vocabulary to participate in class discussions. This course emphasizes a strong development of conversational, reading and writing skills. Further expansion of base vocabulary will be expected.

Course Outline  Level: 1
Back to school activities
Exploring the media
After-school activities
Environmental issues and solutions

322 French III  Prerequisite: C in French II, 312 or 311  4 Credits

A continuation of French II, 312, this intermediate course progresses at a moderate pace. Along with the ongoing review of previous language learning, the goal will be to expand the student’s ability to understand and use spoken French. Guided writing exercises will stress organization of ideas and opinions as well as language structure accuracy.

Course Outline  Level: 2
Back to school activities
Exploring the media
After-school activities
Environmental issues and solutions
Professions and services

330 French IV, Pre-AP  Prerequisite: A- in French III, 321 and Teacher Recommendation  4 Credits

This honors level class is intended for students who have shown above average ability in French. This course will provide a wide variety of challenging experiences in speaking, listening, reading and writing. More complex language expression will be presented and practiced. Topics include: France today (youth, sports, government, and economy), 19th and 20th century society and literature, and contemporary writings. Magazines, short stories and cultural readers are used and students are expected to work on individual and group projects in both written and spoken forms.

Course Outline  Level: Pre-AP
Personal relationships
Personality
Feelings
In town (Activities, Places, People)
Influence of media

331 French IV  Prerequisite: C in French III, 321 or B in French III, 322  4 Credits

This course is a continuation of French III, 321 or 322. It is intended to meet the needs of the students who have completed a study of basic French language structure and civilization, and who have a firm, if limited, ability to speak, read and write in French. This course aims at advanced level learning topics and skills during the second half of the course. Various areas are studied such as: France today (youth, education, sports, and music), geography, the national economy and selected moments in history, literature, art, and music of France during the 19th century.

Course Outline  Level: 1
Personal relationships
Personality
Feelings
In town (Activities, Places, People)
Influence of media (Cinema, TV, News, Press, etc.)

Family
Food
Stages in life
341 French V  
Prerequisite: C in French IV, 331 or 330  
4 Credits

This course is a continuation of French IV, intended for those students who wish to do advanced studies in French, though not at the Honors level. Students will focus on current French social questions, a survey of twentieth century artistic trends, and selected literary and historical movements, though less than in the Honors course. The course aims at the continued development of advanced skills for reading and listening comprehension, and intermediate-high skills for oral and written expression. Individual and group oral and written presentations are expected.

Course Outline  
Level: 1
- Artist as career choice
- French social classes and economic issues
- French cinema
- French career paths and job ads
- The French-speaking world today
  
French education system: university level and non-college
- Historical and social topics: the early and mid-twentieth century
- Literary analysis: selections from early and mid-twentieth century
- Survey of modern French artists and styles: 1890-1960
- Comparisons and contrasts: France and the U.S.

351 AP French V  
Prerequisite: B in French IV, 330 and Teacher Recommendation  
4 Credits

The AP French V Language and Culture course emphasizes communication (understanding and being understood by others) by applying the interpersonal, interpretive, and presentational modes of communication in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP French Language and Culture course strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. The AP French Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions). All students are required to take the AP French Language Examination. Some summer work may be required.

**SPANISH OFFERINGS**

_Students are strongly advised to elect the Spanish course level which corresponds to their current English course level. Honors students electing Spanish II, or III should choose Level One._

325 Spanish IA  
Prerequisite: None  
4 Credits

In this novice course, students will learn to speak and understand simple sentences, read short passages and write short passages in Spanish. The course will focus on developing strong speaking and listening comprehension skills. Cultural content will emphasize the daily life and customs of Spanish speakers, especially teens. Spanish IA is intended for the Level 2 student with no past experience in Spanish or by teacher recommendation.

Course Outline  
Level: 2
- Greetings, introductions,
- Origin, nationality
- Numbers, dates, time, weather
- Likes and dislikes,
- Sports and activities
- Talking about school
- Foods
- Describing yourself and others
324 Spanish IB  
Prerequisite: C in Spanish IA, 325 or Grade 8 Spanish and teacher recommendation  
4 Credits

This course is a continuation of Spanish IA. In this novice course, students will learn to speak and understand simple sentences, read short passages and write short passages in Spanish. The course will focus on developing strong speaking and listening comprehension skills. Cultural content will emphasize the daily life and customs of Spanish speakers, especially teens.

Course Outline Level: 2

Describing family  
Clothing and shopping  
Making plans

Describing houses  
Planning a party  
Favorite sports

Parts of the body  
Talking about technology

326 Spanish II  
Prerequisite: B+ avg. in grade 8 Spanish or 324, Spanish IB and teacher recommendation  
4 Credits

In this intermediate course, a continuation of Spanish I, 316, the student will strengthen his/her skills in speaking and understanding spoken Spanish; vocabulary and language structures will be further developed through simple written compositions, short readings and oral presentations in Spanish during class discussions.

Course Outline Level: 1

My friends and I  
Movies  
New places  
School paper

Being healthy  
Family  
Shopping  
Our future

Old cultures & modern cities  
Food

327 Spanish II  
Prerequisite: C+ avg. in Grade 8 Spanish or Spanish IB, 324 and teacher recommendation  
4 Credits

In this course, a continuation of Spanish I, 317, attention is given to the further development of basic skills (speaking, listening, reading and writing). Vocabulary and language structures will be developed through short readings and dialogs, compositions, class presentations and class discussions.

Course Outline Level: 2

My friends and I  
Movies  
New places  
School paper

Being healthy  
Family  
Shopping  
Our future

Old cultures & modern cities  
Food

336 Spanish III  
Prerequisite: C in Spanish II, 326 and teacher recommendation  
4 Credits

In this accelerated intermediate course, a continuation of Spanish II, 326, the student will be expected to use his/her knowledge of language structure and vocabulary to participate in class discussions. This course emphasizes a strong development of conversational, reading and writing skills. Further expansion of base vocabulary will be expected.

Course Outline Level: 1

Daily Life and routines  
Personal Description  
Outdoor Life & Leisure Activities  
Volunteer Activities

Media  
The Future of our Planet  
Professions  
Travel
337 Spanish III  Prerequisite: C in Spanish II, 327 or 326  4 Credits

A continuation of Spanish II, 327, this intermediate course progresses at a moderate pace. Along with the ongoing review of previous language learning, the goal will be to expand the student's ability to understand and use spoken Spanish. Guided writing exercises will stress organization of ideas and opinions as well as language structure accuracy.

Course Outline  Level: 2
Daily Life and routines  Media
Personal Description  The Future of our Planet
Outdoor Life & Leisure Activities  Professions
Volunteer Activities  Travel

350 Spanish IV  Prerequisite: A- in Spanish III, 336, and Teacher Recommendation  4 Credits

This Advanced Placement level course, a continuation of Spanish III, 336, is intended for students who have shown above average talent and interest in Spanish. The course will provide a wide variety of challenging experiences targeting all skills: reading, listening, speaking, and writing. More complex language expression will be presented and practiced. Students will be expected to work on oral and written presentations in significant depth, both individually and in groups. A core text containing short works in literature, South American life social issues, current events, the arts and literature will be utilized.

Course Outline  Level: Pre-AP
Comparing people and things  Medical situations
Familiar issues (foods, shopping, clothes, chores)  Travel (vacations, hotels, directions)
Cultural topics: life, social issues, the arts, literature

346 Spanish IV  Prerequisite: C in Spanish III, 336 or B in Spanish III, 337  4 Credits

This course is a continuation of Spanish III levels I & II. It is designed to meet the needs of students who have successfully completed a study of basic Spanish civilization and language structure. This course will aim to strengthen intermediate language skills during the first semester and develop more advanced level skills during the second semester. Students will be expected to create both oral and written presentations, individually and in groups. A core text containing short works in literature, cultural readings and language structure will be a primary resource. Topics to be covered will focus on Latin and South American countries, their culture and social issues, but more limited in depth than in the Honors course.

Course Outline  Level: 1
Familiar issues (housing, household chores, clothing, shopping)  Health (illnesses, medical care)
Travel (directions, vacations, hotel stays)  Comparing people and things
Cultural/moral issues (short stories)  Cultural topics: life, social issues, the arts, Literature
The AP Spanish V Language and Culture course emphasizes communication (understanding and being understood by others) by applying the interpersonal, interpretive, and presentational modes of communication in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP Spanish Language and Culture course strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in Spanish. The AP Spanish Language and Culture course engages students in an exploration of culture in both contemporary and historical contexts. The course develops students' awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions). All students are required to take the AP Spanish Language Examination. Some summer work may be required.

This course is a continuation of Spanish IV intended for those students who wish to do advanced studies in Spanish, though not at the Honors level. It aims at the continued development of advanced skills for reading and intermediate - high skills for listening comprehension as well as oral and written presentations. Topics included will focus on Spain of the 20th Century: a survey of historical, literary and artistic trends. Selections of literary readings, historical and social background readings, and contemporary works will be used. Materials appropriate for continued work on accurate language structure will be included to support discussion and expression related to these advanced topics.

Course Outline  
**Level: 1**
- Franco and the Spanish Civil War
- Cultural & Political Issues
- Subjunctive mood: expressing opinion or feelings
- Future vs. Conditional tenses
- Spanish Literature - Poetry and short stories
- Miguel de Cervantes & *Don Quijote*
- Cultural films

Federico Garcia Lorca
An overview of past tenses in Spanish
Surrealist artists: Picasso, Dali and Miró
Golden Age of Spain
Music, Art and Architecture
Geography and regionalism
LATIN OFFERINGS

Students are strongly advised to elect the Latin course level which corresponds to their current English course level. Honors students electing Latin should choose Level One.

318 Latin I  
Prerequisite: Teacher Recommendation  
4 Credits

In the first part of this course the student will be exposed to life in ancient Pompeii in the years leading up to the eruption of Mount Vesuvius in 79 AD. Through cultural sections at the end of each chapter, the student will become acquainted with various aspects of Pompeian life, people, and concerns. In the second part of the course the student will continue to focus on classical civilization with an emphasis on the Roman experience in ancient Britain and ancient Egypt. Each chapter presents readings in Latin about the people and life in those ancient cultures. In addition each chapter presents vocabulary and grammatical exercises of a challenging and high level aimed at creating language basics.

Course Outline: Level 1
Declensions of nouns and adjectives
Noun and adjective agreement
Present, imperfect, perfect, pluperfect tenses - active voice
Four Conjugations
Classical word order
Verbs with dative
Imperatives
Irregular verbs volo and possum

Numbers
Various subordinate clauses - indicative active
Demonstratives
Present participles
Cultural Topics:
Life and concerns in ancient Pompeii
Life and concerns in ancient Britain
The Roman experience in ancient Egypt
Mythology

319 Latin I  
Prerequisite: none  
4 Credits

In the first part of this course the student will be exposed to life in ancient Pompeii in the years leading up to the eruption of Mount Vesuvius in 79 AD. Through cultural sections at the end of each chapter, the student will become acquainted with various aspects of Pompeian life, people, and concerns. In the second part of the course the student will continue to focus on classical civilization with an emphasis on the Roman experience in ancient Britain and ancient Egypt. Each chapter presents readings in Latin about the people and life in those ancient cultures. In addition each chapter presents vocabulary and grammatical exercises at a moderate level aimed at creating language basics. The student will also go into depth researching any aspect of Roman life that personally interests them in order to present a project on the subject by year’s end.

Course Outline: Level 2
Declensions of nouns and adjectives
Noun and adjective agreement
Present, imperfect, perfect, pluperfect tenses - active voice
Four Conjugations
Word order
Verbs with dative
Imperatives
Irregular verbs volo and possum

Numbers
Various subordinate clauses - indicative active
Demonstratives
Present participles
Cultural Topics:
Life and concerns in ancient Pompeii
Life and concerns in ancient Britain
The Roman experience in ancient Egypt
Mythology
This course is intended for the student who has successfully completed the basic Latin course Latin I, 318. It follows the same direction of that course by providing a strong focus on classical civilization and including those language structures necessary for the comprehension of intermediate readings in Latin. The course includes enhanced vocabulary, and more advanced grammar of a challenging level that was not introduced in Latin I, 318. Students will continue to focus on classical civilization through reading material based on historical characters and situations in two different parts of the Roman Empire (ancient Britain and the ancient city of Rome) in the first century A.D. The student will also go into depth researching any aspect of Roman life that personally interests them in order to present a project on the subject by year’s end.

Course Outline: Level 1
Review grammar
Introduction to subjunctive
Gerundives
Regular verbs- passive voice
Deponent verbs, irregular verbs
Participles
Ablative absolute
Future tense
Future perfect tense

Modern legal and medical terminology
Linguistic theory
Cultural Topics:
Roman military life
Roman magic, religion, astrology
Roman history, science and philosophy
Roman entertainment
Roman social structures
Astronomy through mythology

329 Latin II
This course is intended for the student who has successfully completed the basic Latin course Latin I, 318. It follows the same direction of that course by providing a strong focus on classical civilization and by including those language structures necessary for the comprehension of intermediate readings in Latin. The course includes enhanced vocabulary and more advanced grammar of moderate level that was not introduced in Latin I, 319. Students will continue to focus on classical civilization through reading material based on historical characters and situations in two different parts of the Roman Empire (ancient Britain and the ancient city of Rome) in the first century A.D. The student will also go into depth researching any aspect of Roman life that personally interests them in order to present a project on the subject by year’s end.

Course Outline: Level 2
Review grammar
Introduction to subjunctive
Gerundives
Regular verbs - passive voice
Deponent verbs, irregular verbs
Participles
Ablative absolute
Future tense
Future perfect tense

Modern legal and medical terminology
Linguistic theory
Cultural Topics:
Roman military life
Roman magic, religion, astrology
Roman history, science and philosophy
Roman entertainment
Roman social structures
Astronomy through mythology
338 Latin III / 348 Latin IV  Prerequisite: C in Latin II (328), C in Latin III (338)  4 Credits

This is an advanced Latin course for the student who has completed and demonstrated success in grasping the more difficult aspects of Latin grammar and has a basic knowledge of the ancient Roman culture. The curriculum will alternate each year as follows:

Course Outline 2013-2014  Level: 1
Review of verb system
Review of cases and declensions
Introduction of new grammar as encountered
Examination of Epic and Lyric poetry
Selected readings from Vergil
Selected readings from Catullus, Ovid, and Horace
Other readings may be selected from other Latin poets: *Medieval, and Modern*

Course Outline 2012-2013  Level: 1
Review of verb system
Review of cases and declensions
Introduction of new grammar as encountered
Selected readings in Sallust and Cicero
readings may also include:
*Golden Age Latin, Silver Age Latin, Late Latin,*
*Medieval Latin, Modern Latin  Golden Age, Late Latin, Paleology*

WORLD LANGUAGE ELECTIVES

335 Hispanic & Francophone Culture through Cinema  2 Credits
Pre-requisite: Successful completion of 2 year Marshfield High School world language requirement.

This one semester course is intended for students who have completed their two year language requirement at the high school in Spanish, French or Latin. This course explores world cinema, primarily from the French and Spanish speaking world, examining the cultural representations that distinguish it from Hollywood cinema. It provides an in-depth exploration of cultural identity and politics throughout the world. Through cinematographic images, director interviews, as well as readings, students will engage in the history of cultural, political, and religious diversity within a dynamically changing world. Taught in English. All movies have English subtitles.

353 Hispanic History, Society and Culture  2 Credits
Pre-requisite: Successful completion of 2 year Marshfield High School world language requirement.

In this one semester course, students will learn about Spanish history, arts, society and contemporary culture through cinema, media and selected readings. This course will be conducted in English. This course is intended for students who have completed their two year language requirement in Spanish, French or Latin.

Course Outline:  Level 1
Geography and Climate of Latin America and Spain
History of Spain and Latin America
Hispanic Literature and Film
Hispanic Traditions (Art, Music & Holidays)
Immigration & Hispanic Influences in the United States
Current Events
SOCIAL STUDIES

The Social Studies curriculum is designed to meet individual needs through diverse course offerings in the social sciences. Courses are offered in the historical and behavioral areas in both the traditional and the elective programs with the availability of survey or in-depth courses. It is hoped that these offerings will encourage the development of an inquiring mind, an ability to consider alternative solutions to the problems of everyday existence, and the desire to live in harmony with one's fellow man. Through the required and elective offerings in each grade, the department hopes to instill within the students a sense of self-awareness through a basic knowledge of man's cultural development, along with development and refinement of oral, written and inquiry skills. Students at various levels will be required to participate in a summer reading program that is assessed as the new school year begins.

<table>
<thead>
<tr>
<th>GRADE 9</th>
<th>Honors</th>
<th>Level I</th>
<th>Level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>510 World Cultures</td>
<td>511 World Cultures</td>
<td>512 World Cultures</td>
<td>515 World Cultures</td>
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<tr>
<td>GRADE 10</td>
<td>530 U.S. History I</td>
<td>531 U.S. History I</td>
<td>532 U.S. History I</td>
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<tr>
<td>GRADE 11</td>
<td>540 U.S. History II</td>
<td>551 U.S. History II</td>
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<tr>
<td>GRADE 12</td>
<td>520 European History</td>
<td>541 Government-Economics</td>
<td>542 Government-Economics</td>
</tr>
</tbody>
</table>

Electives:
| GRADE 10-12 | 583 AP Psychology |
| GRADE 11-12 | 190 Courtroom and the Law |
| | 534 Intro Humanities/Philosophy |
| | 581 Psychology |
| | 536 Street Law |
| | 582 Psychology |

NINTH GRADE COURSE OFFERINGS

510 World Cultures  Prerequisite: A- in Eighth Grade Social Studies  A- in Level 1 English  4 Credits

The history and ideas of the non-western areas of the world are studied in this course, from the past up to and including today's ideas and new events. "The non-western" areas include: Africa, the Middle East, India, Southeast Asia, Japan, and China. Extensive outside readings and report writing is to be expected.
Course Outline  
Early civilization  Growth of Asian Nations
Evolution of India  Sub-Saharan Africa
Middle East  Byzantine Empire
Islamic Empires

511 World Cultures  
Prerequisite:  B in Eighth Grade Social Studies  4 Credits
B Level 1 English

The history and ideas of the non-western areas of the world are studied in this course, from the past up to and including today’s ideas and new events. “The non-western” areas include: Africa, the Middle East, India, Southeast Asia, Japan, and China. The depth of investigation will be that of a level one college preparation course.

Course Outline  
Level: 1
Early Civilization  Growth of Asian Nations
Evolution of India  Sub-Saharan Africa
Middle East  Byzantine Empire
Islamic Empires

512 World Cultures  
Prerequisite: none  4 Credits

The history and ideas of the non-western areas of the world are studied in this course, from the past up to and including today’s ideas and new events. “The non-western” areas include: Africa, the Middle Asia, India, Southeast Asia, Japan, and China. This course is designed for the standard college preparatory student.

Course Outline  
Level: 2
Early civilization  Growth of Asian nations
Evolution of India  Sub-Saharan Africa
Middle East  Byzantine Empire
Islamic Empires

515 World Cultures  
Prerequisite: By assignment only  4 Credits

World Cultures – 515 will concentrate on progressive skill development while following the same curriculum and content of the 512 course. The instruction in this course will emphasize skill development in the areas of reading, writing, and listening as well as content important to a general understanding of world history and the other social sciences. Reading, writing and note-taking skills will be emphasized to reinforce basic organizational skills necessary to the process of critical thinking. This is a standard college preparatory program designed to adequately prepare students for U.S. History I and U.S. History II.
TENTH GRADE COURSE OFFERINGS

530 U.S. History I – Pre-AP  Prerequisite: B- in World Cultures, 510  4 Credits

This course will cover material from Exploration to Reconstruction. The interpretation of historical events through the study of primary and secondary sources will be emphasized. Preparation for the Advanced Placement examination in U.S. History will be a course component.

Course Outline  Level: 0
Colonial period  Era of the American Revolution
Confederation and the Constitution  Early National Period
Age of Jackson  Civil War and Reconstruction

531 United States History I  Prerequisite: C in World Cultures, 511  4 Credits

This is the first half of a two year survey course in American History. After a brief review of the pre-Columbian America, this course will cover material from Exploration through the Civil War and Reconstruction. This course will allow students to develop a broad set of critical thinking skills. Students will analyze primary sources and college level supplementary reading materials. The course will emphasize cause and effect relationships in history as students learn how to interpret historical events. Discussion questions will relate historically to current events to demonstrate that historical events are not isolated incidents.

Course Outline  Level: 1
Native Americans  European Exploration
Colonization  American Revolution
Confederation and the Constitution  Federal Period
Industrial Revolution  Age of Jackson
Reform and Westward Expansion  Civil War and Reconstruction

532 United States History I  Prerequisite: passing grade in World Cultures 512  4 Credits

This is the first half of a two year survey course in American History. After a brief review of a pre-Columbian America this course will cover material from Exploration through the Civil War and Reconstruction. This course will allow students to develop a broad set of critical thinking skills. The course will emphasize cause and effect relationships in history as students learn how to interpret historical events. Discussion questions will relate historical to current events to demonstrate that historical events are not isolated incidents. This course will focus on helping the student develop college level reading and writing skills.

Course Outline  Level: 2
Native Americans  European Exploration
Colonization  American Revolution
Confederation and Constitution  Federal Period
Industrial Revolution  Age of Jackson
Reform and Westward Expansion  Civil War and Reconstruction
ELEVENTH GRADE COURSE OFFERINGS

540 AP U.S. History  Prerequisite: B- in U.S. History AP, Part 1- 530  4 Credits

The purpose of this class is to provide the student with an intensive study of U.S. History from 1900 to the present. Major emphasis will be placed upon the Progressive era, Immigration, WWI, the New Deal, WWII, the Cold War, and Modern America. Emphasis on critical thinking, research and higher order thinking. The AP U.S. History exam is required.

Course Outline  Level: AP
Gilded Age  American Imperialism
The Progressive Era  World War I
The 1920’s to the Great Depression  The New Deal
World War II  An Affluent Society
The Cold War  The Sixties
The Triumph of Conservatism  Globalization and Its Discontents
9/11 and the 21st Century

551 United States History II  Prerequisite: C in U.S. History, 531  4 Credits

This is the second half of a two year survey course in American History. In this course the student’s ability to study history critically is developed. The student is presented with historical problems and through his/her text and supplementary reading he/she is expected to solve these problems. The course emphasizes cause and effect relationships of history. Interpretation of historical events is stressed. Supplementary materials are on the college level with primary sources emphasized. Discussion questions relate the historical past to events of the day, so the student learns that historical events are not isolated happenings, but are related to the present. Term papers are a course requirement.

Course Outline  Level: 1
Civil War and Reconstruction  Political and Foreign Policy reflect the growth of industry
Westward Expansion  Imperialism
World War I  The 20’s
Great Depression and New Deal  World War II
Rise of the Cold War/Korean War  The Sixties Culture
Vietnam War  Watergate and post consequences
Regan Revolution  End of the Cold War

552 United States History II  Prerequisite: Passing Grade in U.S. History I  4 Credits

This is the second half of a two year survey course in American History. This course will attempt to develop the student’s interpretive skills through the study of historical concepts and the problem solving technique. The basic text will be supplemented by independent work and by further reading in suggested books. There will be regular written assignments to aid the student in his/her development of interpretive skills.

Course Outline  Level: 2
Civil War and Reconstruction  Political and Foreign Policy reflect the growth of industry
Westward Expansion  Imperialism
World War I  The 20’s
Great Depression and New Deal  World War II
Rise of the Cold War/Korean War  The Sixties Culture
Vietnam War  Watergate and post consequences
Regan Revolution  End of the Cold War
TWELFTH GRADE COURSE OFFERINGS

541 Government and Economics  Prerequisite: Passing grade in U.S. History, 531  4 Credits

The Government semester will develop an understanding of our government’s operation. The organization of the national government, domestic and foreign policies and critical issues, historical and current, will comprise the areas of concentration. Research reports on government issues are course requirements. The Economics semester is devoted to acquiring a familiarity with the basic principles of economics. This course covers capitalism and the significance of Economics to the political structure.

Course Outline  Level: 1
Review of the U.S. Constitution
Supreme Court cases
Corporation and Mutual fund research
Mutual funds
Stock Market – US Economy
Basic economic concepts
Term paper research
Types of business organizations
Stock and bond markets
Government regulations
Taxes

542 Government and Economics  Prerequisite: None  4 Credits

The Government semester will develop an understanding of our government’s operation. The organization of the national government, domestic and foreign policies and critical issues, historical and current, will be the areas of concentration. The Economics semester is devoted to acquiring a familiarity with the basic principles of economics. This course covers capitalism and the significance of Economics to the political structure.

Course Outline  Level: 2
Review of the U.S. Constitution
Supreme Court cases
Types of business organization
Stock and bond markets
Taxes
Term paper research
Basic economic concepts
Corporation and mutual fund research
Stock Markets- US Economy
Government regulations

520 AP European History  Prerequisite: B- in U.S. History, 540  4 Credits

A.P. European History is a College Level course which covers the intellectual, religion, ecumenical, social and political history of Europe from the Renaissance up to the present day. In addition to acquiring a thorough knowledge of the history data covered, students will be required to develop strong writing and analytical skills. The AP European History exam is a requirement of this course.

Course Outline  Level: AP
Medieval Europe: The Dark Ages
The Protestant and Catholic Reformations
The Rise of Powerful Monarchies
English Constitutional development in the 17th Century
Napoleon and reaction
Nationalism and the rise of National States
Russia and the Community Revolution
Term paper research
The Renaissance
Wars of Religion
Mercantilism, exploration and colonization
Enlightenment and the French Revolution
The Industrial Revolution
World War I
The rise of dictators and World War II

35
SOCIAL STUDIES ELECTIVE OFFERINGS

190 Courtroom and the Law  Prerequisite: none  2 Credits

This year long course is especially designed for academically talented and motivated students who have special interest in speaking, defending positions, and law and courtroom procedures. The emphasis will be on preparing case studies in conjunction with the Massachusetts Bar Mock Trial Program conducted yearly. This course meets once every six days.

Course Outline  Level: 1
Preparing case study  Extensive use of law library
Writing closing and opening statements  Participation in actual court trial
Expansive vocabulary study

534 Intro to Humanities/Philosophy  Prerequisite: B- in 531 or 551  4 Credits

This is a seminar style course designed for students who wish to attend a four year liberal arts college. This course traces the history of European philosophy from Socrates and Plato to Darwin and Freud. Students will examine a variety of philosophical themes and engage in discussions including morality, epistemology, truth, politics, and ethics. Students will also make connections between the different movements in history and how they relate to the changing views on these philosophical themes. In addition to gaining a broad knowledge of the various European philosophers, students will develop stronger analytical skills, research and writing skills and will also learn to make clear and informative reports to their peers in an imaginative and original fashion.

Course Outline  Level: 1
Ancient Greece – Socrates, Plato, Aristotle
The Renaissance – Machiavelli, Rene Descartes, Spinoza, Sir Francis Bacon, Hume
The Enlightenment – Thomas Hobbes, John Locke, Rousseau, Montesquieu, Kant
19th and 20th Centuries – Hegel, Kierkegaard, Marx, Darwin and Freud
The Medieval Period - St. Augustine

536 Street Law  Prerequisite: None, Seniors only  4 Credits

This college level course will provide students with a basic understanding of the justice spectrum from studies in criminal and civil law. Vocabulary building, case studies, video and mock trials are used. A general survey of family law and housing law is also part of the study.

Course Outline  Level: 2
Introduction to law and the court system  Criminal law: Categories of crime
Criminal Justice System: Arrest – search & seizure  Criminal Justice System: Interrogation
Criminal Justice System: Arraignment  Criminal Justice System: Plea bargaining
Criminal Justice System: The trial  Criminal Justice System: Defenses
Criminal Justice System: The prison system  Tort law: The law suit
Housing Law: Landlord and tenant rights  Family Law: Marriage and divorce law- Mass

581 Introductory Psychology  Prerequisites: B- in 531 or 551  4 Credits

This full year course is designed as an introduction to the study of psychology. The units are designed to expose the student to psychological terminology and concepts in the vast area of psychology.
**Course Outline**  
**Level: 1**

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Methodology</th>
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</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Memory</td>
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<tr>
<td>Sensation</td>
<td>Physiological</td>
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<tr>
<td>States of consciousness</td>
<td>Development</td>
</tr>
<tr>
<td>Personality</td>
<td>Health and adjustment</td>
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<tr>
<td>Clinical</td>
<td>Social</td>
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</tbody>
</table>

**582 Introductory Psychology**  
Prerequisite: None  
4 Credits

This full year course is designed as an introduction to the study of psychology. The units are designed to expose the student to psychological terminology and concepts in the vast area of psychology.

**Course outline**  
**Level: 2**

<table>
<thead>
<tr>
<th>Introduction</th>
<th>Methodology</th>
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</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Memory</td>
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<td>Sensation</td>
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</tr>
<tr>
<td>Clinical</td>
<td>Social</td>
</tr>
</tbody>
</table>

**583 AP Psychology**  
Prerequisite:  
- B- in 530 or 540
- A- in 531 or 551 & teacher recommendation  
4 Credits

The Advanced Placement Psychology course is a more in-depth introduction to the systemic study of behavior and the mental processes of humans and animals. Students will be exposed to the psychological facts, principles, and phenomena associated with each of the major subjects within psychology. Students will also learn about the methods psychologists use in their science and practice. Successful completion of this course will prepare the student for the AP Psychology Exam. The AP Psychology Exam is a requirement of this course.

**Course Outline**  
**Level: AP**

<table>
<thead>
<tr>
<th>Methods, approaches and history</th>
<th>Development Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological basis of behavior</td>
<td>Personality - theories and approaches</td>
</tr>
<tr>
<td>Sensation and Perception</td>
<td>Testing and individual differences</td>
</tr>
<tr>
<td>States of consciousness</td>
<td>Abnormal Psychology</td>
</tr>
<tr>
<td>Learning - Biological Factors</td>
<td>Social Psychology</td>
</tr>
<tr>
<td>Classical and Operant Conditioning</td>
<td>Motivation and Emotion</td>
</tr>
</tbody>
</table>
Mathematics
Science
Computer Science
Technology Education
Comprehensive Health
MATHEMATICS

The Mathematics Department currently offers a wide variety of courses to students from different academic backgrounds, with different mathematical abilities and diverse career goals as their objective. Subject matter is taught with an emphasis on why mathematical processes are performed as they are, along with the practical application of these concepts. Achievement in mathematics is based on students’ clear understanding of concepts and their use in solving problems. The Common Core standards are embedded in all of our mathematics curricula as the mathematics department is continually working to improve practice and instruction. The core course offerings have been aligned by year in the Program of Studies, followed by the electives that are available. Doubling up of Algebra 2 (231) and Geometry (221) during sophomore year is possible for those students who meet the prerequisite in Algebra 1 (211) and demonstrate a genuine desire to excel in the mathematics arena. It is possible to enroll in two math courses in any given year as well, providing that the prerequisites for each course have been met. All students will need a calculator (TI-83 or TI-84 are recommended).

The following sequence of courses is intended to help students in their course selection based on their abilities, interests, and long-range goals. If you have any questions with regard to which course best suits your needs, please consult your current math teacher, the Math Department Head, or your guidance counselor.

<table>
<thead>
<tr>
<th>Level</th>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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<tbody>
<tr>
<td>0 Honors</td>
<td>Geometry 210</td>
<td>Algebra 2 220</td>
<td>Pre-Calculus 230</td>
<td>AP Calculus AB 240</td>
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<td>Geometry 221</td>
<td>Algebra 2 231</td>
<td>Pre-Calculus 241</td>
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<td>Pre-Calculus 245</td>
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</tbody>
</table>

39
NINTH GRADE COURSE OFFERINGS

210 Honors Geometry  Prerequisite: B- in Grade 8 Compacted Math  4 Credits

The Honors Geometry course is a course in Euclidean Geometry, covering two- and three-dimensional concepts. These concepts include points, lines, planes, coordinate geometry, polygons, similarity, right triangle trigonometry, vectors, and three-dimensional figures, with an introduction to conic sections as well as probability and statistics. The course includes transformations and uses transformational concepts in defining congruence and its application in proofs. The course emphasizes the importance of describing concepts both algebraically and geometrically including the relevance of developing critical thinking skills. Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline:  Level: 0
Apply, write and communicate using the precise language of Geometry
Use inductive and deductive reasoning to draw conclusions
Apply geometric properties of congruence and similarity including constructions
Apply geometric properties of parallel and perpendicular lines
Recognize special types of polygons and their characteristics
Understand and apply properties of triangles, including right triangle trigonometric relationships
Use the coordinate plane and algebraic techniques to solve problems
Identify and apply relationships between lines, segments, arcs and angles of a circle
Apply appropriate techniques, tools and formulas to determine measurements of 2- and 3- dimensional geometric figures
Identify and define cross-sections of three-dimensional figures
Transform geometric shapes using translations, rotations, reflections, & dilations
Explore and solve conic sections
Use the rules of uniform probability to evaluate decision outcomes and to understand the different types of probability

221 Geometry  Prerequisite: C in Grade 8 Compacted Math  4 Credits

Geometry covers all the important Plane Geometry topics as well as the terminology involved. Topics learned in this course include the language of geometry (points, lines, planes and angles), reasoning and proofs, parallel and perpendicular lines, congruent triangles and their applications, quadrilaterals, similarity, right triangles, trigonometric ratios, conic sections, circles, polygons and area, surface area and volume, coordinate geometry, probability & statistics and transformations. Throughout this course, you will also learn how to recognize and apply Geometry in real world situations. Students should be able to apply the algebra skills necessary to successfully complete the geometry assignments. Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline  Level: 1
Write and communicate using the precise language of Geometry
Use inductive and deductive reasoning to draw conclusions
Apply properties of congruence and similarity as well as apply geometric properties of parallel and perpendicular lines including constructions
Recognize special types of polygons and their characteristics
Understand and apply properties of triangles
Use the coordinate plane and algebraic techniques to solve geometric problems
Identify and apply relationships between lines, segments, arcs and angles of a circle
Apply appropriate techniques, tools and formulas to determine measurements of geometric figures
Identify and write the equations of conic sections
Use trigonometric ratios to solve triangles
Use probability and statistics to make decisions
211 Algebra 1  
Prerequisite: B- in 8th grade Common Core  
4 Credits

This course is designed for students with a strong mathematics background. All topics essential to the Common Core Algebra 1 curriculum are covered which include, equations, inequalities in one variable, polynomials, graphs, relations, functions, quadratic equations, statistics, probability, radicals, and real numbers. A student must achieve a C to continue at this level. Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline:  Level: 1
Write, graph, & solve multi-step linear equations as well as systems of equations & inequalities
Solve and graph absolute value functions and multi-step inequalities
Solve word problems dealing with numbers, percents, consecutive integers and motion
Add, subtract and multiply polynomials, factor polynomial expressions, and apply rules of exponents
Strong working knowledge of relations and functions
Solve probability problems & work with measures of central tendency to display & interpret statistics
Perform fundamental operations using radical expressions and simplify radicals.
Work with quadratic, exponential, and radical functions
Solve quadratic equations as well as graph different types of functions

212 Algebra 1  
Prerequisite: Credit in 8th grade Common Core  
4 Credits

Algebra 1 is a college preparatory course. All topics essential to the Common Core Algebra 1 curriculum are covered which include equations, inequalities in one variable, polynomials, graphs, relations, functions, quadratic equations, statistics, probability, radicals, and real numbers. Students must pass Algebra 1 to continue on to Geometry (222). A grade of C- in Algebra 1 is required to continue on to Algebra 2 (232). Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline:  Level: 2
Write, graph, & solve multi-step linear equations as well as systems of equations & inequalities
Solve and graph absolute value functions and multi-step inequalities
Solve word problems dealing with numbers, percents, consecutive integers and motion
Add, subtract and multiply polynomials, factor polynomial expressions, and apply rules of exponents
Strong working knowledge of relations and functions
Solve probability problems & work with measures of central tendency to display & interpret statistics
Perform fundamental operations using radical expressions and simplify radicals.
Work with quadratic, exponential, and radical functions
Solve quadratic equations as well as graph different types of functions

TENTH GRADE COURSE OFFERINGS

220 Honors Algebra 2  
Prerequisite: B- in 8th Grade Compacted & Honors Geometry 210  
4 Credits

Honors Algebra 2 is a course that expands on Algebra I topics and covers algebraic topics necessary for Pre-Calculus. Students will continue to develop their skills and strategies while moving on to advanced concepts. This course includes solving equations, rational expressions, polynomials, radicals, quadratics, vectors, complex numbers, exponential & logarithmic functions, systems of equations, inequalities, linear programming, trigonometric ratios & functions, probability & statistics, sequences & series, and matrices. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.
Course Outline  Level: 0
Apply tools of Algebra I to solve equations and inequalities
Demonstrate an understanding of linear programming
Use the measures of central tendency under a normal curve
Use quadratic equations to model data & graph and solve quadratic equations with real & complex solutions
Investigate the graphs and solve exponential & logarithmic functions
Write and graph polynomial functions and solve polynomial equations
Utilize and graph trigonometric ratios & functions
Solve real world problems using variations and vectors
Solve rational equations and functions & perform operations on radical functions
Define arithmetic & geometric sequences and series

231 Algebra 2  Prerequisite:  C in Algebra 1 211 and Geometry 221  4 Credits

Algebra 2 is a course that expands on Algebra I topics and covers algebraic topics necessary for Pre-Calculus. This course includes solving equations, rational expressions, polynomials, radicals, quadratics, vectors, complex numbers, exponential & logarithmic functions, systems of equations, inequalities, linear programming, trigonometric ratios & functions, probability & statistics, sequences & series, and matrices. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

Course Outline  Level: 1
Apply tools of Algebra I to solve equations and inequalities
Demonstrate an understanding of linear programming
Use the measures of central tendency under a normal curve
Use quadratic equations to model data & graph and solve quadratic equations with real & complex solutions
Investigate the graphs and solve exponential & logarithmic functions
Write and graph polynomial functions and solve polynomial equations
Utilize and graph trigonometric ratios & functions
Solve real world problems using variations and vectors
Solve rational equations and functions & perform operations on radical functions
Define arithmetic & geometric sequences and series

221 Geometry  Prerequisite:  C in Algebra 1 211  4 Credits

Geometry covers all the important Plane Geometry topics as well as the terminology involved. Topics learned in this course include the language of geometry (points, lines, planes and angles), reasoning and proofs, parallel and perpendicular lines and their applications, quadrilaterals, similarity, right triangles, trigonometric ratios, conic sections, circles, polygons and area, surface area and volume, coordinate geometry, probability & statistics and transformations. Throughout this course, you will also learn how to recognize and apply Geometry in real world situations. Students should be able to apply the algebra skills necessary to successfully complete the geometry assignments. Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline  Level: 1
Write and communicate using the precise language of Geometry
Use inductive and deductive reasoning to draw conclusions
Apply properties of congruence and similarity as well as apply geometric properties of parallel and perpendicular lines including constructions
Recognize special types of polygons and their characteristics
Understand and apply properties of triangles
Use the coordinate plane and algebraic techniques to solve geometric problems
Identify and apply relationships between lines, segments, arcs and angles of a circle
Apply appropriate techniques, tools and formulas to determine measurements of geometric figures
Identify and write the equations of conic sections
Use trigonometric ratios to solve triangles
Use probability and statistics to make decisions

222 Geometry  Prerequisite: Credit in Algebra 1 212  4 Credits

In this course, students will gain an understanding of the concepts and terminology involved in Geometry. Topics learned in this course include the language of geometry (points, lines, planes and angles), reasoning and proofs, parallel and perpendicular lines, congruent triangles and their applications, quadrilaterals, similarity, right triangles, trigonometric ratios, conic sections, circles, polygons and area, surface area and volume, coordinate geometry, probability/statistics and transformations. Throughout this course, you will also learn how to recognize and apply Geometry in real world situations. Algebra is reinforced throughout the year. Students are encouraged to have a graphing calculator (TI-83 or TI-84) for all four years of study.

Course Outline  Level: 2
Write and communicate using the precise language of Geometry
Use inductive and deductive reasoning to draw conclusions
Apply properties of congruence and similarity as well as apply geometric properties of parallel and perpendicular lines including constructions
Recognize special types of polygons and their characteristics
Understand and apply properties of triangles
Use the coordinate plane and algebraic techniques to solve geometric problems
Identify and apply relationships between lines, segments, arcs and angles of a circle
Apply appropriate techniques, tools and formulas to determine measurements of geometric figures
Identify and write the equations of conic sections
Use trigonometric ratios to solve triangles
Use probability and statistics to make decisions

ELEVENTH GRADE COURSE OFFERINGS

230 Honors Pre-Calculus  Prerequisite: B- in Honors Algebra 2 220  4 Credits

Honors Pre-Calculus is designed for the advanced mathematics student and is intended to rigorously prepare students for the study of AP Calculus. This course provides formal development of algebraic, trigonometric and other Pre-Calculus skills using various forms of representation. The pace is faster and covers a greater depth of study than Level 1 Pre-Calculus. Critical to the success of the students will be their ability to think, reason, and communicate mathematically. A graphing calculator (TI-83 or TI-84) is required and is used extensively course.

Course Outline  Level: 0
Analysis of Elementary Functions and Their Graphs
Finding the zeros and graphs as well as the analysis of Polynomial, Rational, Exponential, Logarithmic and Trigonometric Functions
Functions and their Inverses
Polar Coordinate System
Complex Numbers in Trigonometric Form
Operations with Matrices
Applications of all Pre-Calculus Functions
Analytic Trigonometry
Vectors
Matrices and Systems of Equations
Binomial Theorem
Combinations
**241 Pre-Calculus**  
Prerequisite: C in Algebra 2 220 or 231 and Geometry 210 or 221  
4 Credits

Pre-Calculus is designed to prepare students to successfully enter Calculus. Using algebraic, numeric, graphic, and verbal methods, traditional topics of advanced algebra, conic sections, and trigonometry are taught. Emphasis is placed on understanding, skills mastery, problem solving, and have an independent, thought process. Students need to persevere, think critically, and use mathematics to model and solve problems using: exponents, factoring, rational expressions, radicals, special right triangles, and linear equations. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

**Course Outline  Level: 1**
Review Algebra 2 topics of exponents, factoring, rational expressions, radicals, special right triangles, and linear equations
Vectors & Matrices: In a plane, systems of equations, operations, inverse, determinant, cross product of two vectors
Complex Numbers: Basics, Fundamental Theorem of Algebra, Polar Coordinates, Trigonometric Form
Trigonometry: Radian & Degree Measure, unit circle, right triangle trigonometry, trigonometric functions of any angle, graphs of all six trigonometric functions, applications & models, inverse trigonometry, fundamental identities, verifying and solving trigonometric identities, sum & difference formulas as well as the law of sines and cosines
Functions: combinations, inverses, real zeroes, rational functions & their graphs, exponential functions & their graphs, logarithmic functions & their graphs, logarithms, solving exponential and logarithmic models, and the binomial theorem

**231 Algebra 2**  
Prerequisite: C in Algebra 1 211 and Geometry 221  
4 Credits

Algebra 2 is a course that expands on Algebra I topics and covers algebraic topics necessary for Pre-Calculus. This course includes solving equations, rational expressions, polynomials, radicals, quadratics, vectors, complex numbers, exponential & logarithmic functions, systems of equations, inequalities, linear programming, trigonometric ratios & functions, probability & statistics, sequences & series, and matrices. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

**Course Outline  Level: 1**
Apply tools of Algebra I to solve equations and inequalities
Demonstrate an understanding of linear programming
Use the measures of central tendency under a normal curve
Use quadratic equations to model data & graph and solve quadratic equations with real & complex solutions
Investigate the graphs and solve exponential & logarithmic functions
Write and graph polynomial functions and solve polynomial equations
Utilize and graph trigonometric ratios & functions
Solve real world problems using variations and vectors
Solve rational equations and functions & perform operations on radical functions
Define arithmetic & geometric sequences and series

**232 Algebra 2**  
Prerequisite: C- in Algebra 1 212 and credit for Geometry 222  
4 Credits

Algebra 2 is a course that expands on Algebra I topics and covers algebraic topics necessary for Pre-Calculus. This course includes solving equations, rational expressions, polynomials, radicals, quadratics, vectors, complex numbers, exponential & logarithmic functions, systems of equations, inequalities, linear programming, trigonometric ratios & functions, probability & statistics, sequences & series, and matrices. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.
Course Outline  Level: 2
Apply tools of Algebra I to solve equations and inequalities
Demonstrate an understanding of linear programming
Use the measures of central tendency under a normal curve
Use quadratic equations to model data & graph and solve quadratic equations with real & complex solutions
Investigate the graphs and solve exponential & logarithmic functions
Write and graph polynomial functions and solve polynomial equations
Utilize and graph trigonometric ratios & functions
Solve real world problems using variations and vectors
Define arithmetic & geometric sequences and series

TWELFTH GRADE COURSE OFFERINGS

240 AP Calculus AB  Prerequisite: B- in Honors Pre-Calculus 230 4 Credits
This course is designed to meet the Advanced Placement curriculum. In this course, students will study a graphical, analytical, and algebraic approach to Calculus. Students will gain a strong understanding of the concepts of Calculus, as well as develop a solid foundation that will help them succeed in future mathematics courses. Emphasis will be placed not on memorization, but on the comprehension of how and why Calculus works. Topics include limits and rates of change, derivatives and applications of derivatives, maximum and minimum problems, related rates, the Fundamental Theorem of Calculus, the definite integral and applications of integration. The scheduling of the course allows for several weeks of review before the exam during which time the students take previous exams, as well as, work on numerous free response questions. Students are required to complete a summer packet reviewing Algebra 2 and Pre-Calculus concepts that will be assessed during the first week of school. Students are required to take the Advanced Placement exam in Calculus AB in May. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

Course Outline  Level: AP
Limits of Functions  Differentials
Continuity  Methods of integration
First and Second Derivatives  Total Area
Velocity and Acceleration  Area under the Curve
Rectilinear Motion  Slope Fields
Curve Sketching  Area between curves
Related Rates and Optimization  Volume
Review for Advanced Placement Exam

250 Calculus  Prerequisite: C in Pre-Calculus 241 or 230 and B- in Algebra 2 231 or 220 4 Credits
In this course, students will study a graphical, analytical, and algebraic approach to Calculus. Students will gain a strong understanding of the concepts of Calculus, as well as develop a solid foundation that will help them succeed in future mathematics courses. Emphasis will be placed not on memorization, but on the comprehension of how and why calculus works. Topics include limits and rates of change, derivatives and applications of derivatives, maximum and minimum problems, related rates, the Fundamental Theorem of Calculus, the definite integral and applications of integration. The depth, pace, and number of concepts covered is different from the AP course. This course is designed to prepare students for a college level Calculus course. Students are required to complete a summer packet reviewing Algebra 2 and Pre-Calculus concepts that will be assessed during the first week of school. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.
Course Outline  Level: 1

Limits of Functions  Rectilinear Motion
Continuity  Curve Sketches
First and Higher Order Derivatives  Related Rates
Velocity  Optimization
Acceleration  Integration involving total area

241 Pre-Calculus  Prerequisite: C in Algebra 2 220 or 231 and Geometry 210 or 221  4 Credits

Pre-Calculus is designed to prepare students to successfully enter Calculus. Using algebraic, numeric, graphic, and verbal methods, traditional topics of advanced algebra, conic sections, and trigonometry are taught. Emphasis is placed on understanding, skills mastery, problem solving, and have an independent, thought process. Students need to persevere, think critically, and use mathematics to model and solve problems using: exponents, factoring, rational expressions, radicals, special right triangles, and linear equations. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

Course Outline  Level: 1

Review Algebra 2 topics of exponents, factoring, rational expressions, radicals, special right triangles, and linear equations
Vectors & Matrices: In a plane, systems of equations, operations, inverse, determinant, cross product of two vectors
Complex Numbers: Basics, Fundamental Theorem of Algebra, Polar Coordinates, Trigonometric Form
Trigonometry: Radian & Degree Measure, unit circle, right triangle trigonometry, trigonometric functions of any angle, graphs of all six trigonometric functions, applications & models, inverse trigonometry, fundamental identities, verifying and solving trigonometric identities, sum & difference formulas as well as the law of sines and cosines
Functions: combinations, inverses, real zeroes, rational functions & their graphs, exponential functions

245 Pre-Calculus  Prerequisite: C in Algebra 2 232 or a C- in Algebra 2 231  4 Credits

Pre-Calculus is a course that expands upon Algebra 2 topics as well as prepares students for elective math courses in college. The topics covered will include trigonometry, functions, complex numbers, vectors, and matrices as well as a review of Algebra 2 topics to begin the year. A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

Course Outline  Level: 2

Review Algebra 2 topics of exponents, factoring, rational expressions, radicals, special right triangles, and linear equations
Vectors & Matrices: In a plane, systems of equations, operations, inverse, determinant, cross product of two vectors
Complex Numbers: Basics, Fundamental Theorem of Algebra, Polar Coordinates, Trigonometric Form
Trigonometry: Radian & Degree Measure, unit circle, right triangle trigonometry, trigonometric functions of any angle, graphs of all six trigonometric functions, applications & models, inverse trigonometry, fundamental identities, verifying and solving trigonometric identities, sum & difference formulas as well as the law of sines and cosines
Functions: combinations, inverses, real zeroes, rational functions & their graphs, exponential functions & their graphs, logarithmic functions & their graphs, logarithms, solving exponential and logarithmic models, and the binomial theorem
ELECTIVE COURSE OFFERINGS

256 AP Statistics  Prerequisite: A- in Algebra 2 231 or B- in Algebra 2 220  4 Credits
as well as a B- in English 121 or above

This course is designed to meet the Advanced Placement Curriculum. This course moves at a much faster pace and depth than the Level 1 Statistics. The course is mapped to finish weeks before the exam allowing for ample opportunities for review and practice with previous exams and open response questions. The purpose of the AP Statistics course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad themes: exploring data, sampling and experimentation, anticipating patterns, statistical inference. The emphasis of the course will be on improving the students' ability to effectively communicate using the vocabulary and methods of statistics. The concepts behind various topics will be emphasized rather than the mechanics. Students will make extensive use of their TI-84/TI-83+ calculator and use as an aid in assessing models, performing simulations, and exploring data. Activities will play an important role in the students' learning. Assessment will rely heavily on written investigative assignments and projects along with traditional tests and quizzes. Collection of real data will help students discover many concepts on their own. Interpretation and communication of their findings visually, verbally and in a written format will be the goal throughout the year. Students are required to take the AP Statistics exam in May.

Course Outline  Level: AP
Graphical Displays  Probability and Relative Frequency
Bivariate Data  Normal and Sampling Distributions
Summarizing and comparing distributions  Test of Significance
Planning and conducting a survey  Confidence Intervals
Principals of Counting  Explore relationships and make inferences
Formulate questions that can be addressed w/ data  Collect, organize, and display relevant data

255 Statistics  Prerequisite: B- in Algebra 2 231 or C in Algebra 2 220  4 Credits

The purpose of a Statistics course is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad themes: exploring data, sampling and experimentation, anticipating patterns, statistical inference. The emphasis of the course will be on improving the students' ability to effectively communicate using the vocabulary and methods of statistics. The concepts behind various topics will be emphasized rather than the mechanics. Students will make extensive use of their TI-84/TI-83+ calculator and use as an aid in assessing models, performing simulations, and exploring data. Activities will play an important role in the students' learning. Assessment will rely heavily on written investigative assignments and projects along with traditional tests and quizzes. Collection of real data will help students discover many concepts on their own. Interpretation and communication of their findings visually, verbally and in a written format will be the goal throughout the year.

Course Outline  Level: 1
Graphical Displays  Probability and Relative Frequency
Bivariate Data  Normal and Sampling Distributions
Summarizing and comparing distributions  Test of Significance
Planning and conducting a survey  Confidence Intervals
Principals of Counting  Explore relationships and make inferences
Formulate questions that can be addressed w/ data  Collect, organize, and display relevant data
Discrete Mathematics consists of concepts and techniques for studying finite processes and discrete phenomena. Applications come from a variety of settings, including project management, communication networks, lotteries, voting, fair division, finance, population growth and social relations. Central themes in all contexts are existence (does a solution exist?), algorithmic problem solving (can one efficiently construct a solution?), and optimization (which is the best solution?). A graphing calculator (TI-83 or TI-84) is required for this course and is used throughout the curriculum.

Key areas of discrete mathematics are:

a) Graph Theory – using vertex-edge diagrams to study relationships among a finite number of elements as in a transportation network or a predator-prey food web
b) Social Choice and Voting – the mathematics of voting, fair division and apportionment
c) Combinatorics- systematic counting
d) Probability and Statistics
e) Cryptology and Coding Theory
f) Patterns and Symmetry

Course Outline Level: 2
Represent real life situations using the concepts of graph theory
Explore mathematical models that use directed graphs and probability theory
Demonstrate ability to use a graphing calculator
Explore election theory and social choice
Select and use appropriate statistical methods to analyze data
Collect, organize, and display relevant data
Apply counting principles to real world problems
Apply probability theory to real world problems
Recognize recursive and iterative patterns

294 SAT Prep-Math Open to juniors only 2 Credits

The primary goal of this course is to provide students with the strategies, skills, and practice necessary for improving their SAT scores. Emphasis will be placed on further developing problem solving skills and other areas of quantitative literacy as well as reading comprehension skills that will better prepare students for success on college placement tests. Students will have the opportunity to partake in practice exams throughout the course and an analysis of students’ errors will be addressed. This will run concurrently with the Critical Reading, Writing, & Language SAT-Prep.

Course Outline Level: UL
Numbers Algebra
Functions Geometry
Measurement Data Analysis
Probability and Statistics Multiple Choice
Operations Short Answer Responses
Trigonometry Rational Functions
Exponential Models Polynomials
Today, nearly every phase of our lives is affected by the results of scientific activity. Furthermore, the influence of science on our lives is bound to become even greater in the future. In view of this fact, it is essential that all of us have an understanding of what science is, how it is carried out and how it has, and will effect mankind. Scientific literacy is essential for all citizens in order for them to be able to comprehend the world in which they live and work and to enable them to intelligently participate in local and national decisions that require an understanding of science. There are two major objectives in the study of any science course. One is to become acquainted with some of the significant facts, concepts and theories upon which that area of science is based. The second objective is to learn what science really is... to recognize its methods of discovery of knowledge about the natural world. Experience-centered lessons, employing a "hands-on" laboratory approach, provide the foundation of all courses of study. Our curriculum profile shows the recommended progression through the courses of study to serve the needs of all student’s interests and abilities. Those students with expectations of going on to college should take the courses which include exposure to the broadest possible spectrum of scientific knowledge. This would include; Physical Science, Biology, Chemistry, and Physics. The other courses offered focus special attention on more specific subject areas. These are good courses for advanced science students with special interests but generally should not be taken in place of the core subjects. It is possible to elect two science courses in one year providing the prerequisites for each course have been met.

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<th>Level 0 (Honors)</th>
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<td>420 Biology</td>
<td>430 Chemistry</td>
<td>440 Physics</td>
<td>470 AP Physics-C</td>
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<td>416 AP Biology</td>
<td>445 AP Chemistry</td>
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<td>421 Biology</td>
<td>421 Biology</td>
<td>431 Chemistry</td>
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<td>447 Anatomy &amp; Physiology</td>
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<th>Level 2 (Standard College Prep)</th>
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<td>422 Biology</td>
<td>432 Chemistry</td>
<td>442 Physics</td>
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<td>424 Biology 1A</td>
<td>432 Chemistry</td>
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<td>449 Forensic Science</td>
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Please be sure to choose those courses and levels of difficulty which are consistent with your abilities, interests and long range ambitions. If you have any questions in this regard, please talk to your present science teacher, the Science Department Head or your guidance counselor.

Please note: Because the Program of Studies for Science is grouped by subject area rather than by grade, it is important to refer to the sequence chart above in making appropriate course choices based on high school year and instructional level.
COURSE OFFERINGS:

BIOLOGY

420 Honors Biology  
**Prerequisite:** 9th grade: A- in 8th grade Science and teacher recommendation, B- in Compacted Math or A- in Common core math.

10th grade: A- in Physical Science 411 and teacher recommendation

Geometry should be taken concurrently or must have Department Head approval

Honors Biology is an introductory course in biology that is both comprehensive and rigorous. It is appropriate for the highly motivated and academically talented student who will go on to college and probably major in science or an allied field. The laboratory program of this course is integrated with text material. Additional information is presented through outside reading, films, and lectures. Topics covered in this course will include: cell structure and function, taxonomy, biogenetics, plant and animal physiology, reproduction and development, evolution and ecology. Students will be expected to give oral presentations and complete comprehensive lab reports.

**Course Outline Level: 0**

- Scientific method
- Cell biology (structure and function)
- Overview of anatomy and physiology
- Ecology

- The chemistry of life
- Mendelian Genetics and Heredity
- Evolution and biodiversity

421 Biology  
**Prerequisite:** 9th grade: B- in 8th grade Science, Passing Compacted math or C in Common Core Math, 10th grade: C- in Physical Science 411 or A- in Physical Science 412

This comprehensive introductory biology course covers all of the major topics in modern biology and includes an integral laboratory program and extensive audiovisual support materials. This course will provide good preparation for further study in science, both in high school and at the college level.

**Course Outline Level: 1**

- Scientific method
- Cell biology (structure and function)
- Overview of anatomy and physiology
- Ecology

- Chemistry of life
- Mendelian Genetics and Heredity
- Evolution and biodiversity

422 Biology  
**Prerequisite:** 9th Grade Credit in 8th grade Science, 10th Grade Passing Physical Science

This comprehensive course in biological science will introduce the student to the world of living things and will develop an appreciation of the methods of science through a laboratory program that is coordinated with the text material. A variety of topics will be covered in this course, including: cell structure, classification, genetics, evolution and human biology. This course uses a systems approach to provide a basic understanding of all the major areas of modern biology. This course is sufficiently challenging to satisfy college entrance requirements.

**Course Outline Level: 2**

- Scientific method
- Cell biology (structure and function)
- Overview of anatomy and physiology
- Ecology

- Chemistry of life
- Mendelian Genetics and Heredity
- Evolution and biodiversity
424 Biology 1A  
Prerequisite: by assignment only, Freshmen only  
4 Credits

This is part one of a two-year comprehensive course in biological science that is designed to maximize the opportunity to meet state testing requirements in science for graduation. It will introduce the student to the world of living things, and will lead to the development of an appreciation of the process of science through a hands-on laboratory program that is integrated with the curriculum. Students in this class will develop organization and study skills. The course uses a systems approach to provide a basic understanding of all major areas of modern biology.

Course Outline  
Level: 2
Scientific method  
Chemistry of life
Cell biology (structure and function)  
Mendelian Genetics and Heredity

425 Biology 1B  
Prerequisite: by assignment only Successful completion of 424 Biology 1A  
4 Credits

This is year two of a comprehensive curriculum in the biological sciences. The first quarter of the course will incorporate an extensive review of the concepts presented in 424 Biology: scientific method, the chemistry of life, cell biology (structure and function), Mendelian Genetics, classification, evolution and biodiversity, ecology and human body systems will complete the curriculum.

Course Outline  
Level: 2
Overview of anatomy and physiology  
Evolution
Biodiversity  
Ecology
Classification

416 AP Biology  
Prerequisite: B- in Biology 420, or an A- in Biology 421 & Chemistry 430 with a B-, or 431 with an A- Concurrently in or have passed Algebra 2 or with Department Head approval  
4 Credits

Advanced Placement biology is designed for extremely competent science students planning to pursue a career in a biologically related field or to earn college level science credit while in high school. Twelve mandatory labs plus other supplemental lab experiences play an integral part in the success of the student. Course topics include cellular chemistry and functions, DNA, genetics, evolution, and ecology along with a comprehensive study of the kingdoms of living things. This course may include dissections. Students will be expected to give oral presentations based on independent research and complete comprehensive lab reports. Students enrolled in this course are required to take the AP exam in May. Students are required to complete a summer assignment in preparation for this course.

Course Outline  
Level: AP
Ecology and behavior  
Biochemistry
The cell  
Cellular energetics
Heredity  
Molecular genetics
Evolutionary biology  
Diversity of organisms
Structure and function of plants  
Structure and function of animals

CHEMISTRY

430 Honors Chemistry  
Prerequisite: B- in Biology 420, or A- in Biology 421  
4 Credits
B- in Level 0 Geometry or A- in Level 1 Geometry, and concurrently in Algebra 2, 220 or Algebra 2, 231 or with Department Head approval

Honors chemistry is a rigorous, comprehensive course in introductory chemistry intended for the highly motivated, academically talented student. This course involves an extensive laboratory program that is closely integrated with the topic
sequences of the college level textbook used. The subject matter covered includes; scientific model systems, matter and energy concepts, atomic structure, chemical bonding, solution chemistry, stoichiometry, kinetics and equilibrium, types of reactions and numerical problem solving. This fast-paced, in-depth course is presented at the honors level of difficulty. Students are expected to work somewhat independently in fulfilling the requirements of this course.

Course Outline  Level: 0
Measurement and chemistry math skills
Atomic structure
Periodicity
Introduction to organic molecules
Stoichiometry
Thermochemistry and energy concepts
Solutions, rates of reaction
Acids and bases
Design and conduct scientific investigations

Properties of matter
Nuclear chemistry
Chemical bonding
Chemical reactions
States of matter, kinetic molecular theory
Gas laws
Equilibrium
Oxidation-reduction reactions
Analyze and interpret results of scientific investigation

431 Chemistry  Prerequisite: C in Biology 421, C in Algebra 1 211 or A- in Bio 422/A- Algebra 212  4 Credits
and concurrently enrolled in Algebra 2

This is a comprehensive and academically challenging Chemistry course which covers topics in sufficient depth to prepare a student for a competitive Science program at the accelerated college prep level. It is expected that the Level I Chemistry student has achieved good success in Biology and has a high degree of confidence in algebraic skills. Typical lessons are composed of lecture, teacher demonstration, student demonstration, lab experimentation, and cooperative group exercise. All concepts are introduced by the teacher but reinforced and applied through practice problems in class and at home. Students regularly compose their own lab reports which contain a substantial writing component. Lab exercises give students ample opportunity to interpret qualitative and quantitative data and draw meaningful conclusions. It is expected that students gradually develop more independence and take more initiative in their own learning as the year progresses.

Course Outline  Level: 1
Measurement and chemistry math skills
Atomic structure
Periodicity
Chemical reactions and stoichiometry
Kinetic molecular theory
Gas laws
Equilibrium
Oxidation-reduction reactions
Analyze and interpret results of scientific investigations

Properties of matter
Nuclear chemistry
Chemical bonding
States of matter
Thermochemistry
Solutions, rates of reaction
Acids and bases
Design and conduct scientific investigations

432 Chemistry  Prerequisite: C- in Algebra 1 (any level) and currently enrolled in Algebra 2 (any level)  4 Credits

Chemistry 432 is designed for those students who will go on to college but probably not major in science or an affiliated field. A traditional approach will be used in presenting the major concepts in chemistry and the methods of investigation. The student will be directly involved in the activities of science through conducting laboratory experiments. Matter-energy relationships, atomic theory, the periodic law, acid-base chemistry, the properties of the physical states of matter and quantitative chemistry are the major topics covered in this course.

Course Outline  Level: 2
Measurement and chemistry math skills
Atomic structure
Periodicity
Chemical reactions and stoichiometry
Kinetic molecular theory
Gas laws
Equilibrium
Oxidation-reduction reactions

Properties of matter
Nuclear chemistry
Chemical bonding
States of matter
Thermochemistry
Solutions, rates of reaction
Acids and bases
Design and conduct scientific investigations
Analyze and interpret results of scientific investigations

**445 AP Chemistry**  Prerequisite: B- in Chemistry 430 or A- in Chemistry 431, and B- in Algebra 2, 220 or 231  4 Credits
Or with Department Head approval

This is a second year course in chemistry designed for students who wish to continue their study of the subject at a more advanced level. In this course, strong emphasis will be placed on the student’s ability to solve complex, multifaceted problems using their textbook, the Internet, various print materials, and other students as resources. Small group work and team cooperation will be inherent in most assignments. Additionally, a significant laboratory program will allow students to collect and analyze experimental data as it applies to current topics of study. Laboratory skills, including the computer analysis of data, will be expanded beyond the level of the first year course in chemistry. Students enrolled in this class are required to take the AP exam in May.

**Course Outline**  **Level: AP**

| Kinetics | Thermochemistry |
| Relationships on the periodic table | Organic chemistry (structure, nomenclature, and properties) |
| Qualitative analysis | Data acquisition and analysis |
| Laboratory technique | Writing effective lab reports |
| Atomic theory and structure | Chemical bonding |
| Nuclear chemistry | Solids, liquids, gases, solutions |
| The kinetic-molecular theory | Reaction types |
| Stoichiometry | Equilibrium |

**PHYSICS**

**440 Honors Physics**  Prerequisite: B- in Algebra 2, 220 or A- in Algebra 2, 231, C in Geometry, 210/221
Concurrently in Pre-Cal, 230/241 or with Department Head approval  4 Credits

Honors Physics will provide the academically talented student with a sound introduction to the study of physics. It is designed for those students who are scientifically oriented and mentally prepared for a rigorous exposure to physics using both an experimentally oriented conceptual approach and mathematically intensive problem solving. This course is taught to prepare students for the Advanced Placement level course and should be elected by those top-level college bound students who intend to major in physical science, engineering, or mathematics in college. Honors Physics emphasizes the development of an understanding of the physical relationships and theories concerning the natural world. This is accomplished through independent student laboratory work and problem solving which involves logical reasoning based on quantitative experimental evidence. Fundamental concepts of time, space and matter, optical phenomena, classical mechanics, electricity and magnetism are some of the major topics in this course.

**Course Outline**  **Level: 0**

| Kinematics of straight line motion | Heat and heat transfer |
| Vector quantities | Waves and Sound |
| Projectile Motion | Optics |
| Forces | Electromagnetic radiation |
| Circular Motion | Electromagnetism |
| Gravitation | Electrostatics |
| Energy, work, and power | Electric Circuits Momentum |
441 Physics  
Prerequisite: B- in Algebra 1 211, C in Geometry, 210/221 and concurrently in Algebra 2, 231  
4 Credits
Or with Department Head approval

This course in physics is taught at an accelerated college preparation level of difficulty. A traditional approach is used to present the following topics: basic mechanics, heat, optics and waves, electricity, and magnetism. This course will provide a strong subject background in physics and should help students develop a good knowledge base and work/study habits for future study in college. This course is appropriate for those students with a generally strong background in mathematics, and a sincere interest in the physical sciences.

Course Outline  
Level: 1
Kinematics of straight line motion  
Vector quantities  
Projectile motion  
Forces  
Circular motion  
Gravitation  
Energy, work, and power  
Momentum  
Heat and heat transfer  
Waves and sound  
Optics  
Electromagnetic radiation  
Electromagnetism  
Electrostatics  
Electric circuits

442 Physics  
Prerequisite: C- in Algebra 1, C- in Geometry and concurrently in Algebra 2, 232 or higher  
4 Credits

In this introductory course in general physics a conceptually oriented approach involving lectures with demonstrations, experiments, student laboratory activities, and visual media will be used in presenting the following major topics: Mechanics, heat, light, sound, electricity, and magnetism. Students should be comfortable with mathematics as it is used as a tool for problem solving. This course would be appropriate for any junior or senior who desires a broad, but general knowledge of classical physics. A sincere interest in the physical sciences and a working knowledge of basic algebra and geometry is essential.

Course Outline  
Level: 2
Kinematics of straight line motion  
Vector quantities  
Projectile motion  
Forces  
Circular motion  
Gravitation  
Energy, work, and power  
Momentum  
Heat and heat transfer  
Waves and sound  
Optics  
Electromagnetic radiation  
Electromagnetism  
Electrostatics  
Electric circuits

470 AP Physics C: Mechanics  
Prerequisites: B- in Physics 440; A- in Physics 441  
Students must be currently in Calculus 250 or AP Calculus 240  
Or with Department Head approval  
4 Credits

This course will provide the academically talented student the opportunity to continue the study of physics. It is most appropriate for those students who plan to pursue a college program in engineering or science. This course will develop students’ skills through rigorous exposure to physics using both an experimentally oriented approach and mathematically intensive problem solving. AP Physics C emphasizes the development of an understanding of the physical relationships and theories concerning the natural world. This is accomplished through independent student laboratory work and problem solving which involves logical reasoning based on quantitative experimental evidence. Students will work on various projects outside of the classroom to demonstrate their understanding of concepts presented. Students are required to take the AP Physics C: Mechanics Exam in May.
Course Outline  Level: AP
Kinematics  Newton’s Laws of Motion
Work, energy, power  Linear momentum
Circular motion and rotation  Oscillations and gravitation

SCIENCE ELECTIVES

435 Marine Biology  Prerequisite: C-in Biology, 421 or B- in Biology, 422, or Department Head approval  4 Credits
This course in Marine Biology is designed for the accelerated college prep student with a strong background in science. The course of study will focus on a variety of topics including physical and chemical oceanography, marine biology, ecology, and man’s use of the oceans and coastal zone. The topics will be covered with more emphasis on the chemical, biological and physical aspect of the marine environment. One of the primary goals of the course is to provide an appreciation and awareness of local marine ecosystems through investigative laboratory exercises and dissections.

Course Outline  Level: 1
The history of oceanography  Circulation and ocean structure
The water planet  The currents
Plate tectonics  The waves and tides
The seafloor and its sediments  Marine ecology
The physical properties of water  Coasts, beaches and estuaries
The chemistry of seawater & marine pollution  The living ocean
The structure and motion of the atmosphere  Marine resources, pollution, and future of the ocean

436 Marine Biology  Prerequisite: C-in Biology, 422 or Department Head approval  4 Credits
Since nearly three-fourths of the earth is covered with oceans, and the Town of Marshfield is part of the coastal zone, it is important that we understand the nature of the marine environment. This course will focus attention on a variety of topics including aspects of biological, geological, physical and chemical oceanography. The result is a comprehensive survey of the entire marine environment. Representative laboratory exercises strive to familiarize students with local flora and fauna, through investigative laboratory exercises and dissections. It is intended for the standard college prep student with serious career ambitions in the marine sciences, as well as those who have a sincere desire to learn more about the seas and ocean life.

Course Outline  Level: 2
History of Ocean Exploration and Marine Sciences  Theories of the origins of life
The nature of water  The energy of life
Highways in the Sea  Plate tectonics
Air-sea interaction  Currents, waves and tides
Sediments in the sea  Marine ecosystems
A survey of life in the sea  Marine Resources, Pollution, & Future of the Ocean

446 Honors Anatomy/Physiology  Prerequisite: B- Biology, or 420 or A- in 421, B- Chemistry, 430 or A- in Chemistry431 Or with Department Head approval  4 Credits
This is an advanced course in the study of Human Biology intended for students interested in allied health science, medicine, psychology & research in the biology of man. This course will include the molecular, cellular, histological & systemic aspects of the human body. Since the functional aspects of the body can be reduced to the molecular level, biochemistry will be a major underlying theme. Students selecting this course are expected to have a strong background in chemistry & biology and be highly self-motivated. Each section includes clinical considerations & practical application of the knowledge through lecture, augmented by timely related articles & visual media. Laboratory activities and dissections of selected specimens are designed to allow students to explore the major systems and their structures.

**Course Outline**  
**Level: 0**

<table>
<thead>
<tr>
<th>Introduction to A &amp; P</th>
<th>Muscle tissue and muscles</th>
</tr>
</thead>
<tbody>
<tr>
<td>The chemical, cellular, and tissue level of organization</td>
<td>Nervous tissue</td>
</tr>
<tr>
<td>The brain and spinal cord</td>
<td>Endocrine system</td>
</tr>
<tr>
<td>The senses</td>
<td>The integumentary system</td>
</tr>
<tr>
<td>The circulatory system</td>
<td>The skeletal system</td>
</tr>
</tbody>
</table>

**447 Anatomy and Physiology**  
Prerequisite: C- in Biology, 421 or B- in Biology 422  
And C- in Chemistry, 431 pr B- in Chemistry 432  
4 Credits

Anatomy and Physiology is an accelerated college preparatory course designed for those students considering the Allied Health Sciences such as nursing, laboratory science, and physical therapy. The course provides a comprehensive and in-depth understanding of human biology. The concept of homeostasis and its relationship to illness and health is a major theme. This course is designed for students who are planning to pursue careers in nursing, physical therapy, dental and medical technicians, medical and biochemical research scientists, psychologists, physical educators and athletic trainers. Topics covered in the course will survey the basic concepts of cellular physiology, embryology, and comparative anatomy and physiology. Each section includes clinical considerations and practical application of the knowledge through lecture, augmented by timely related articles and visual media. Laboratory activities and dissections of selected specimens are designed to allow students to explore the major systems and their structures.

**Course Outline**  
**Level: 1**

<table>
<thead>
<tr>
<th>Introduction to the human body</th>
<th>Muscle tissue and muscles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical level of organization</td>
<td>Nervous tissues</td>
</tr>
<tr>
<td>Cellular level of organization</td>
<td>The brain and spinal cord</td>
</tr>
<tr>
<td>Tissue level of organization</td>
<td>The senses</td>
</tr>
<tr>
<td>The integumentary system</td>
<td>The circulatory system</td>
</tr>
<tr>
<td>The skeletal system</td>
<td>The respiratory system</td>
</tr>
<tr>
<td>The endocrine system</td>
<td>Immunity</td>
</tr>
</tbody>
</table>

**437 Anatomy and Physiology**  
Prerequisite: C- in Biology or Department Head approval  
4 Credits

This course covers all of the major organ systems in a comprehensive study of the structure and function in the Human Body. The topic sequence is similar to Anatomy and Physiology 447, but the depth of coverage is less and the pace is somewhat slower. Lecture, laboratory activities with dissections, as well as various visual media resources are used to present and reinforce facts and concepts.

**Course Outline**  
**Level: 2**

<table>
<thead>
<tr>
<th>Introduction to the human body</th>
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</tr>
</tbody>
</table>
The circulatory system
The respiratory system

The skeletal system
Immunity

451 Environmental Science  Prerequisite: C- or better in Biology and Chemistry  4 Credits

This course follows a traditional college preparatory curriculum with assessments including Tests, Quizzes, Labs and Projects. Students will explore specific concepts of what natural ecosystems are and how they function. The major Biomes of the world will be examined with respect to climate, plant and animal populations and their interrelationships. Topics will include general topics in ecology, watershed issues, population pressures, global warming, habitat destruction and alteration, invasive species, land use issues and species extinction. Students should expect frequent laboratory presentations and some outdoor field work. Students will participate in a long-term local watershed project.

Course Outline  Level: 1
Introduction to Environmental Science
Science and the environment  Weather/climate
Tools of Environmental Science  Air
The dynamic earth (geology)  Atmosphere and climate change
Ecology  Land
The organization of life  Food and agriculture
How ecosystems work  Mining and mineral resources
Biomes  Nonrenewable energy
Aquatic ecosystems  Renewable energy
Populations  Biodiversity
Environmental ethics

439 Environmental Science  Prerequisite: Successful completion of Biology  4 Credits

This course examines specific concepts of what natural ecosystems are and how they function. The major Biomes of the world will be examined with respect to climate, plant and animal populations and their interrelationships. Topics will include general topics in ecology, watershed issues, population pressures, global warming, habitat destruction and alteration, invasive species, land use issues and species extinction. Students should expect frequent laboratory presentations and outdoor field work in this class. Students will also be working on a long-term local watershed project, associated with the Bridgewater State College watershed program.

Course Outline  Level: 2
Introduction to Environmental Science
Science and the environment  Weather/climate
Tools of Environmental Science  Air
The dynamic earth  Atmosphere and climate change
Ecology  Land
The organization of life  Food and agriculture
How ecosystems work  Mining and mineral resources
Biomes  Nonrenewable energy
Aquatic ecosystems  Renewable energy
Populations  Environmental ethics
Biodiversity
490 AP Environmental Science  Prerequisite: Completion of Biology 420, or a B+ in Biology 421 and teacher rec. & completion of, or currently enrolled in Chemistry 430 or 431 Concurrently taking or have passed Algebra 2 4 Credits

This course is designed to be the equivalent of an introductory college course in Environmental Science. The goal of this course is to provide students with scientific principles, concepts and methodologies required to understand the interrelationships of the natural world. Students will develop skills to utilize technology to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. This course relates to both biology and chemistry, and to social sciences which promote clarity in how ecological realities relate and interact with society. Environmental Science promotes the development of citizens who could make informed, knowledgeable decisions concerning environmental issues. Topics include natural history, energy efficiency, alternative energy, ecosystems, wildlife conservation, diversity, population growth, water issues, climate change and wilderness. Laboratory and some outdoor field work will be required. Presentations and research papers will be assigned. Students enrolled in this class are required to take the AP exam in May.

Course Outline  Level: AP
Physical environment  Water use and reuse
Population dynamics  Toxicology
Geology  Waste disposal
Soils  Ecology
Renewable nonrenewable resources  Solid waste managements
Human impact  Zoning
Environmental policy and ethics  Weather

449 Forensic Science  (Open to juniors/seniors only)  Prerequisite: C- or better in Biology 4 Credits

Forensic Science focuses on problem solving, allowing students to demonstrate understanding and apply skills learned in previous science classes by examining the evidence left behind at a hypothetical crime scene. By use of a variety of tests and instrumentations, which will involve qualitative observations based on both physical and chemical properties of the body of evidence, students will make findings and “solve” hypothetical crimes. Topics which may be included in crime scene investigations are blood type analysis, organic and inorganic evidence analysis, microscopic investigations, hair analysis, DNA gel electrophoresis (DNA fingerprinting), forensic psychology, drug chemistry and toxicology, fiber comparisons, fingerprints, soil comparisons, and the law that governs the collection and use of evidence.

Course Outline  Level: 2
Apply prior science learning to a “real world” activity
Draw evidence-based conclusions
Relate legal requirements to the gathering and use of physical evidence
Understand the complexity of crime-scene analysis techniques
Make observations and evaluate physical and chemical properties of hypothetical crime-scene evidence
Laboratory reports and projects will follow class investigations
Computer Science

Computers have become indispensable tools in our society. Today’s technology and business could not function without the assistance of computers. An understanding of what the computer is, how it works, and how it influences the daily lives of every person, is a necessary part of the general education of all students.

The curriculum in Computer Science extends from a broad based survey of computer applications in our modern world to the logical requisites of BASIC programming to the more advanced complexities of Object Oriented programming, Java, Computer Graphics/Desktop Publishing, World Wide Web Publishing, and Digital Media design.

The chart below offers suggestions for course sequencing based on area of interest:
670 Creative Digital Design
Prerequisite: None 4 Credits

In this project-based course students will learn skills and concepts using industry standard programs professionals’ use in the field of Computer Graphics. Students will learn these skills using Adobe Illustrator CS6, Adobe Photoshop CS6, Adobe Dreamweaver CS6, Adobe Flash CS6, Windows MovieMaker and Microsoft Publisher 2013. Students will work individually and in small groups on a variety of multimedia projects including website design, which will incorporate videos, animations, publications and graphic design skills. In addition, social, legal, and economic issues regarding the Internet and basic hardware and software concepts will be discussed.

Course Outline  Level: UL

Animation: Tweening (morphing and motion)
Graphics: Creating, converting & editing graphics
Web Design: Design techniques, navigation & coding
  HTML

Publishing: Marketing and promotional publications
  Creating brochures, newsletters and flyers

Video Creation: Personal and specialized videos.
  Embedding videos on webpages

637 BASIC Programming
Prerequisite: B- in Algebra 1 or 8th Grade CSTE 4 Credits

This course, geared for the highly motivated student, is a fast paced introductory course in multiple programming languages. Topics will include problem analysis, programming logic and design, testing and debugging techniques. The course provides extensive individual and group work using a variety of interfaces and programming techniques.

Course Outline  Level: 1

Major programming projects
Using the MHS Computers/Cyber Safety & Ethics
BASIC, Visual Basic and Python language overview
Storage concepts with constants and variables
Program control using conditionals and loop structures
Data storage and manipulation using arrays
Simulation using random number generators
Formatted output and menu driven program

External input and output files
Computer concepts, programming
Graphics programming
Arithmetic, relational and logical operators
Methods for program flow control
Game design using GameMaker Software
Coding using class library built-in methods

646 Microsoft Office Suite I
Prerequisite: None 4 Credits

Students will explore the full capabilities of the Microsoft Office Suite 2013 programs that include Word, Excel, PowerPoint and Publisher in greater depth than they have previously been exposed. They will also have a brief review of the cloud based Office 365 suite which incorporates One Drive-Cloud Services, Office on Demand, Outlook-Email, Calendar-Online, and OneNote-Note Taking and Assignment tracking. It will also include a focus on the essential components of a computer system, including the features of Window 8 Operating System, networking structures and file management skills. There is a strong emphasis in this course on subject-integration where students learn to use their Microsoft Office skills to meet the needs of their various core subject assignments. Students will also be prepared to take the MS Office 2013 Specialist Exams, earning them Microsoft Specialist Certification and college credit from the American Council on Education (ACE) if they receive a passing score.
Course Outline  Level: UL
Computer Concepts / File Management
Concepts of Cloud-Based Computing
Networks/Drives/Storage Devices
Windows Operating System
MOS Integrated Software

MOS Word 2013 and Certification Testing
Create and customize documents
Customize options and views
Customize text headings and styles
Create-modify tables, lists, apply references, captions, endnotes, and footnotes
Insert and format objects, and building blocks

Office 365
Learn basic commands of One Drive, Office.com
Outlook and Calendar.

MOS PowerPoint 2013 and Certification Testing
Manage presentations, slide masters, configure and customize options and views.
Present and customize slideshows.
Create slide content including: text, tables, charts, SmartArt, images and media.
Apply transitions and animations, manage multiple presentations, merge content, protect and share.

MOS EXCEL 2013 Basics
Create, configure and manage worksheets and workbooks.
Navigate, format and customize options.
Create data in cells and ranges.
Modify, filter and sort tables.
Apply formulas and functions.

674 Technology and Programming Essentials  Prerequisite: None  4 Credits
Computer programming is used to create the software that you use on a daily basis including games and virtual worlds. This project-based course uses a variety of software and hardware so students can create their own 3-D worlds, develop their own games and build robots. Problem solving skills will be taught throughout much of the course. Students will also gain essential knowledge of file management, networking, Internet safety and an introduction to Microsoft Office.

Course Outline  Level: UL

Programming
BASIC – creating personal games
Alice – creating your own virtual worlds
Robots – building & controlling devices & sensors

Computer Hardware
Software
File management
Networking
Internet safety
Introduction to Microsoft Office
Computer Careers

661 Object Oriented Programming  Prerequisite:  B in BASIC (637) and B in Algebra 1  4 Credits
This course is intended as a second programming course for students who have a strong math background and have completed a course in BASIC programming. The course will deal with algorithm development and the fundamentals of Object Oriented programming. It will include the study of the JavaScript and Java programming languages. Students will be responsible for writing, debugging and executing several class and individual projects. We will investigate a variety of object oriented languages and why they are important.

Course Outline  Level: 1
Arithmetic, relational and logical operators
Transfer of control and repetition (looping) structures
Data storage and manipulation using arrays
Simulation using random number generators
Selection structures

Using JavaScript
External input and output files
Graphics programming
Data manipulation using built-in Java Class libraries
Java Applets
675 Technology Service and Support I  Prerequisite: Open to gr 10-12 with Teacher recommendation (See Ms. D’Amato)  4 Credits

This course is intended to teach mainstream computer users how to both support and service computer systems by applying learned skills and by helping to maintain the MHS Helpdesk Support system. The course will focus on emerging technologies including: digital cameras, cellphones, desktop computers, laptops, scanners, printers, MP3/4 players, iPads, etc. Students will also help create teacher manuals/videos for basic questions on popular faculty software, including: Office 2013, Windows OS, Outlook, Help Desk, file management (saving/organizing), networks, smart phones, social networks, Google Classroom/Drive, learning management software and Office 365. Students will learn how internal/external hardware and software work together to create the modern day computer. Each student will be required to create, maintain, and utilize a professional IT binder/portfolio. This portfolio will be used as a reference guide “out in the field” for completion of faculty Help Desk requests. Their portfolio will also be used as documentation regarding a summative portfolio at the end of year showcasing their completed work. Students will also be required to contribute emerging technology articles for the monthly faculty newsletter “Tech Times”.

Course Outline  Level: UL
History of Windows/Mac OS
Windows and Macs OS User Interface
Windows Tips and Tricks
File Management
Binary
Internet and Computer Security
Basic Hardware
Application Software
Software Licensing
Error Codes
Logic/Electrical Circuits
Networks
The Internet- ISPs, history, WWW and browsers

695 Digital Media  Prerequisite: Teacher Recommendation  4 Credits
Open to Gr 10-12, preference given to juniors and seniors

Students learn Adobe “Premiere Pro” to create short documentary and narrative videos. Students can also learn the software "Maya" for 3D modeling and animation. This is the same software used by the makers of Star Wars, Lord of the Rings, and nearly every other Hollywood movie that uses 3D digital animation. Finally, select students (who have either completed the Maya course module and/or have taken an MHS programming class) will have the opportunity to create interactive 3D video games using the game engine “Unity 3D”, Maya models, and Java Script. Student assessment is based on class participation, short projects, long-term projects and quizzes. Students entering this course will be able to choose any one of the four course modules listed below. Each module is composed of two parts: self-paced video tutorials through which they will learn the primary software package, and creative projects demonstrating mastery of specific aspects of the software application. Note: Students can move on to a second module if they have successfully completed all the learning objectives and projects in their first module.

Course Outline  Level: UL
Autodesk Maya Module – 3D Modeling and Animation
Introduction to “Maya” tutorials
Adding textures to 3D models
Animating 3D models
Creating a short 3D animation
Modeling an object in the real world
Creating a 3D logo for MSB
Using Paint FX to create special FX in Maya
Final project

Premiere Pro Module – Digital Filmmaking
Introduction to Adobe Premiere Pro
Editing with Premiere Pro
Creating a short documentary
Editing a music video
Camera operation
Sound recording with a boom microphone
Narrative Scene Editing

Documentary film structure
Lighting techniques
Sound editing and scoring with music
Basics of Cinematography

Unity3D – 3D Video Game Creation and Oculus Rift Virtual Reality Headset.
This module is only open to advanced students who have either completed the Maya course module and/or have taken an MHS programming class (BASIC, Object Oriented Programming, AP Java).

687 Technology Service and Support II      Prerequisite: B or better in 675          4 Credits

This course is intended for eleventh and twelfth grade students who have earned at least a B in Technology Service and Support I and have teacher approval. The course will focus on advanced technologies including: network infrastructures, internal motherboard components (registers, CPU, logic gates, address bus, memory, etc.), external peripherals, input/output devices, iPads, servers, portable computing and wireless networks. Students will conduct one-on-one teacher trainings for advanced questions on popular software such as: operating systems, Help Desk, Office 2013, Office 365, Google Drive/Classroom, learning management software and Outlook.
Each student will continue to maintain and utilize a professional IT binder/portfolio from Technology Service and Support I. This portfolio will be used as a reference guide “out in the field” for completion of faculty Help Desk requests. Their portfolio will also be used as documentation regarding a summative portfolio at the end of year showcasing their completed work. Students will be required to assist Technology Service and Support I students with their Help Desk Tickets, along with teaching Tech I students the importance of basic hardware, software, networks, circuits, web browsers, and operating systems.

Course Outline       Level: 1
Operating systems       Video: LED/LCD monitors, resolution, projectors
Command prompt/command line       Sound- card standards and software, jacks
Microprocessors; CPU, RAM, BIOS and CMOS       Printers- laser, desk jet, troubleshooting, internal parts
Networking       Hard drives- partitions, formatting, fragmentation
Electricity flow- transistors and diodes, logic gates, voltage

648 Microsoft Office Suite and Office 356 II      Prerequisite: Successful completion of 646          4 Credits

Designed as a continuation of Microsoft Office Suite and Office 365 1 this course presents students with more complex features of the MS Office Suite and Cloud-Based Computing using the Office 365 Suite including the MS Access database, One Drive, Outlook and One Note applications. Students will complete academic and business integration projects that require the use of multiple Microsoft applications. Students will again be prepared to take the Microsoft Office Specialist Exams in the new skill areas and earn the opportunity to receive college credit from The American Council on Education (ACE) upon completion.
Email - attachments, group recipients, send various formats.
Calendar - integration with email, use reminders, and invites.
Office on Demand - OneDrive/Cloud, web based file usage, management, sharing and concepts of anytime, anywhere access.

Advanced MS Word 2013 and Certification Testing
Sort and Calculate in Word.
Customize tables, charts and merge form documents.
Format and work with long documents while also editing in workgroups.
Create forms, webpages, indexes and tables of contents, figures and authorities.

Intermediate/Expert MOS Excel 2013 and Certification Testing
Work with multiple worksheets, applying advanced worksheet and chart options.
Create pivot tables and charts, micros and menus using advanced Excel tools.
Use lists in Excel working with analysis tools.

MOS Access 2013-Basics
Modify table design in Access.
Use relationships in tables, queries forms and reports.
Use features and tools to analyze data.
Import and Export data and create macros and switchboards.

663 AP Computer Science – Java
Prerequisite: B in Object Oriented Programming 661 and B in Algebra 2 or currently taking Algebra 2, 231
This course is designed for students to continue their study of computer science as well as to prepare them for the Advanced Placement Computer Science “A” examination in Java. This course is intended as a third programming course for the highly motivated students who have strong math ability and have completed a course in BASIC programming as well as Object Oriented Programming. The course will provide an expansion on the theories and techniques of object-oriented programming and the development of graphical user interfaces, applets and applications using the Java API. There will be a major emphasis on the notions of objects, classes, methods, instantiations as well as inheritance, encapsulation, polymorphism and event-driven applications. Also, the three required AP Java Labs will be covered: Magpie (Chatbot), Elevens (Card Game) and Picture (Editing). The AP Computer Science A exam is a requirement of this course.

Course Outline
Level: AP
Compilers and interpreters, Java JDK tools
Java syntax
Objects, primitives, and events
Classes, constructors and methods
Inheritance, encapsulation, polymorphism
Recursion
Sorting, searching algorithms
AP Java Labs
AP Exam preparation
TECHNOLOGY EDUCATION

Technology education applies engineering principles to solve real world problems. Students who enroll in our Technology Education courses will learn how to use tools, to understand the materials of industry and to think like engineers. Related science and math principles are stressed throughout all courses while students develop skills using processes of the construction, manufacturing, transportation and communication fields. Certain Tech Ed courses also meet the graduation requirements for Art, Science, and/or Computer Science.

Because the areas of business and technology are intrinsically intertwined, our students also have access to our comprehensive Business program. We strive to produce high-quality, informed, self-directed and technically sophisticated students who are proficient in the 21st century skills that are required in today’s global economy. Students can become adept in Accounting, Marketing and Distribution and Financial Management skills and practice the practical application of these skills in the school store, at vocational placements and at State and Regional contests sponsored by the Federal Reserve Bank and the Council on Economic Education. Students in Business and Finance compete in the International Economic Summit at Bridgewater State College and the DECA program continues to be competitive at the local, state and national competition levels as well.

Our courses meet a wide variety of students’ interests and needs. Courses are designed to improve critical thinking and problem solving skills. Students interested in pursuing engineering and/or scientific careers would find Technology Education courses to be particularly beneficial. Skills mastered in Tech Ed courses will help students succeed in college and in the career world.

<table>
<thead>
<tr>
<th>GRADE 9</th>
<th>GRADE 10 (&amp; up)</th>
<th>GRADE 11 &amp; 12</th>
<th>GRADE 12</th>
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<tr>
<td>Technical Drawing: 717</td>
<td></td>
<td></td>
<td>Woodworking: 738 Marine Fabrication: 797</td>
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<td></td>
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<td>Telecommunications I: 871 Telecommunications II: 872</td>
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Business Technology

<table>
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<tr>
<th>GRADE 9 (&amp; up)</th>
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<th>GRADE 12</th>
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</table>
Ninth Grade Course Offerings

718/719 Manufacturing Technology  
Prerequisite: None  
4 Credits

Course Outline  Level: UL

(A) Woodworking Tech (718) This course introduces the student to the safe and proper use of hand and power tools used in the woodworking industry. Emphasis is placed on learning the correct sequence of operations as students design and construct their own projects. Students will gain experience in stock selection, gluing-up stock and constructing various types of joinery.

(B) Materials and Engineering Design Prototyping Tech (719) This half of the manufacturing course will introduce students to a foundation of design and fabrication techniques and tools inclusive of a secondary technology education curriculum. Students will apply basic skills of measurement, layout, cutting, joinery, affixation and finishing to selected materials to fabricate a product prototype. Students will acquire fundamental skills using manual hand tools, power tools and machine processes. Employment opportunities in product design prototyping, manufacturing along with the techniques and methodology used in industry will be explored, and students will develop an appreciation of the tenant’s common to relative industries. Several required projects must be constructed to pass this course.

717 Technical Drawing  
Prerequisite: None  
4 Credits

This course introduces students to the tools, material, principles and techniques used by drafters who produce blueprints, which are the instructions for the manufacturing and construction trades. Drafting skills and knowledge are essential in graphic arts so students will also learn how to prepare comprehensive layouts for graphics production.

Course Outline  Level: UL

Technical drawing and the language of industry  
Basic tools, applications and techniques  
Sketching  
Technical Lettering  
Geometry of technical drawing  
Orthographic projection  
Dimensioning  
Reproduction of drawings  
Pictorial Drawing  
Sectioning  
Perspective drawing

Tenth Grade Course Offerings

727 Drafting I  
Prerequisite: Grade 10, 11, or 12  
4 Credits

Course Outline  Level: UL

This elective course provides an opportunity for an in-depth study of contemporary drafting practices. Students will create drawings using traditional drafting equipment as well as computer aided drafting (CAD) programs. This course will provide students with a means of evaluating technology-based occupations, meeting deadlines, using mathematical proficiencies, and gaining related computer skills. Upon successful completion of this course, students should exhibit competency in:

- Constructing orthographic, isometric, oblique and perspective drawings
- Drawing various views, dimensioning, intersections and developments
- CAD skills
### 728 Engineering
Prerequisite: Grade 10, 11, or 12  
4 Credits

This course is appropriate for students who are interested in design and engineering. The course is aimed at exposing students to the design process, engineering standards, research and analysis, and teamwork. Engineering design gives students the opportunity to develop their skills and understanding of course concepts through activity-based, project-based and problem-based learning used in combination with a team approach. Students will develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges that increase in difficulty throughout the course.

**Course Outline Level: UL**
- Design process
- Modeling/prototype testing
- Sketching
- Construction Technologies
- Communication Technologies
- Measurement and Applied Geometry
- Engineering drawing standards
- Engineering ethics (teamwork)
- Energy & Power Technologies
- Manufacturing Technologies

### 729 Technology of Printing
Prerequisite: None  
4 Credits

This exploratory course is designed to introduce students to the basics of the five major methods of printing and their related practices. Students will design, compose, and print various examples of each of these methods. The principles of letterpress, intaglio, screen, lithography, and electrostatic printing processes as well as many auxiliary operations will be covered.

**Course Outline Level: UL**
- Introduction to printing
- Safety practices in the printing environment
- Methods of printing
- Layout and design
- Computer typesetting
- Xerographic copy equipment
- Duplicators
- Screen printing process
- Heat transfer process
- Auxiliary operations

### 738 Woodworking
Prerequisite: Grade 10, 11, or 12  
4 Credits

Students will learn safe and proper use of all tools and machines as well as woodworking procedures. Emphasis on the best methods of achieving quality results will be continually stressed. Students will complete assigned and self-directed projects.

**Course Outline Level: UL**
- Project planning
- Safe & proper use of tools and machines
- Gluing up stock
- Assembly of parts
- Basic embellishment
- Hardware installation
- Stock selection
- Stock preparation
- Scraping, planing and sanding
- Woodworking joints
- Finish sanding
- Choosing and applying finishes
- Turning
Eleventh and Twelfth Grade Course Offerings

737 Architectural Drawing & Design  
This course has been developed for drafting students who have an interest in architectural drawing and design or a related field. With the emphasis on residential, each student will design a house and develop and draw a complete set of working drawings for it. Students will have an opportunity to work with CAD systems to produce sections and details necessary for projecting elevations. Term papers, class reports and advanced projects are required for students seeking level one credit.

Course Outline   Level: UL
Basic house design  Primary considerations/financing  The floor plan
Drawing instruments & techniques  Area planning  Foundations
Local, state, national codes  Symbols  Plot plan
Wall sections  Elevation views  Mechanicals
Alternative structures  Model making  Career opportunities
CAS applications

739 Graphic Production  Prerequisite: None  8 Credits
In this course, awareness, familiarity, and printing proficiency are the main goals. The history of printing, major methods of printing, and its sociological and economic importance will also be emphasized. Students enrolled in this course manage and operate the M.H.S. QUIP (Quality Instant Printing) Center, to produce the high school’s printed materials and much more.

Course Outline   Level: UL
Introduction to “Quick Copy”  Xerographical copy equipment  Duplicators
Safety practices in the printing environment  Pre-production and production work  Heat transfer process
Layout and computer design  Binding, finishing, and packaging
Records, billing, and bookkeeping  Career opportunities.

762 Furniture Making (Advanced Woodworking)  Prerequisite: B+ in Woodworking (738)  4 Credits
This is an advanced course for those students who have an interest in learning some of the finer points of furniture making. Each student will make a piece of furniture using traditional joinery methods. Handwork will be taught and encouraged. As in all Tech Ed Classes, safety and proper use of tools and equipment will be stressed.

Course Outline   Level: UL
Project planning  Properties of wood  Carving
Safe & proper use of tools and machines  Sketch modeling  Furniture Design
Sanding, scraping & planing  Cutting to finish dimensions  Gluing up stock
Turning  Joining  Woodworking joints
Choosing & applying finish  Inlay  Staining
797 Marine Fabrication

Prerequisite: None

4 Credits

This course will expose students to several boat building methods during the construction of wooden boats. Boats will be constructed using the traditional riveted plank on frame, glue-lapped plywood, stitch and glue ultra-light building techniques. Projects will include construction of skiffs, prams, sailing tenders, canoes and kayaks. In May, students will test their boats in the waters of Green Harbor.

Course Outline  Level: UL
Reading a plan  Wooden boat building methods  Basic building and shop safety
Hand tools  Power tool operation  Use and care of epoxy products
Boat joinery  Boat fastening methods  Technique for fairing a boat
Building molds  Use & care for fiberglass products  Proper sanding techniques
Acquiring a fine boat finish  Caring for a fine boat

757/758 Computer Aided Drafting (CAD)

Prerequisite: None

4 Credits

(757 – First year, 758 – Second year)

This is a comprehensive course for new and experienced drafters covering hardware, operation, and technical language of computer-aided drafting and design. It addresses an industry need for persons who can understand and apply the power offered by a CAD system. Commands and functions applicable to all CAD systems are introduced as well as the concepts that allow for an easier transfer between CAD programs. The fundamentals of computer-aided drafting are covered using AUTOCAD software. Term papers, class reports and advanced projects are required for students seeking level one credit.

Course Outline  Level: UL
Fundamentals of technical drawing  Creating linear drawings  The CAD workstation
Introduction to Computer Aided Drafting  Modifying  Dimensioning
CAD Programs  Creating solids  AUTOCAD
Printing and Plotting  Menu bars  Special CAD functions

Advanced Construction Technology – Junior and Senior Program

793 Building Construction I

8 credits

Due to the fact that this course takes students off-site for independently contracted building projects, enrollment requires recommendation of the instructor and department head (limited to 7 students).

The Building Construction technology program is designed to prepare students for entrance into the building trades upon graduating from high school, or for further training in construction-related fields at a technical college. It provides students with “hands on” training in a wide range of actual construction experiences, including framing, siding and roofing of houses, porches and additions in the Marshfield community. Students will work with their instructor on projects for individuals or groups within town. Instruction in the use and maintenance of necessary tools and equipment is also part of the course. Meets 2 blocks, every other day.

Course Outline  Level: UL
Overview of power tool and operation  Work site safety  Proper use of staging
Proper nail selection  Hand tool operation  Building codes review
Conventional framing practices  Discussion of lumber  Sheathing practices
Window installation  Exterior trim  Flashing and roof
Insulation techniques  Sheetrock installation  Shingling
794 Building Construction II  Prerequisite: Successful completion of Building Construction I  8 credits
Due to the fact that this course takes students off-site for independently contracted building projects, enrollment requires recommendation of the instructor and department head (limited to 7 students).

The Building Construction technology program is designed to prepare students for entrance into the building trades upon graduating from high school, or for further training in construction-related fields at a technical college. It provides students with “hands on” training in a wide range of actual construction experiences, including framing, siding and roofing of houses, porches and additions in the Marshfield community. Students will work with their instructor on projects for individuals or groups within town. Instruction in the use and maintenance of necessary tools and equipment is also part of the course. Meets 2 blocks, every other day.

Course Outline  Level: UL
Overview of power tool and operation  Work site safety  Proper use of staging
Proper nail selection  Hand tool operation  Building codes review
Conventional framing practices  Discussion of lumber  Sheathing practices
Window installation  Exterior trim  Flashing and roof
Insulation techniques  Sheetrock installation  Shingling

Telecommunications

871 Telecommunications I  Prerequisite: Grade 11 & Grade 12 only – by application  4 Credits
This course is designed to introduce the student to the basic concepts of cable TV production. Students will explore the following topics: camera operations, lens theory, pictorial composition, editing and script writing. Lighting techniques, audio, special effects, producing and directing will also be covered. Students will be required to serve as crews on various programs produced outside the normal class time.

Course Outline  Level: UL
Studio camera operation  Studio lighting
Studio setup  Studio talent
Control room techniques  Switch operation
Audio techniques  Editing equipment operation
Scripting techniques  Remote camera techniques
Crews for TV shoots

872 Telecommunications II  Prerequisite: Pass Telecommunications I, 871 or Coordinator approval  4 Credits
A continuation of Telecommunications I, this course involves production of a senior video yearbook and other individual projects assigned by the teacher. Students will apply skills learned in Telecommunications I. New skills will include video marketing, commercial production and comprehensive script preparation. Students will also be required to work with other course instructors preparing information pertinent to their respective department’s curriculum. Ten hours per term outside the classroom will be required of students enrolled in this course.

Course Outline  Level: UL
Advanced studio camera operation  Advanced studio lighting
Advanced studio preparation  Advanced control room technique
Advanced video editing equipment operation  Advanced remote camera techniques
Principles of marketing  Advanced scripting techniques
Advanced graphic & title preparation
Introduction to Business provides students with research-based reading strategies and integrated academic activities to build comprehension and reinforce key concepts, all within the context of business topics. Each lesson contains a question and answer section set up by Standard and Poor, the world’s leading provider of independent investment research, indexes and ratings. Additionally, this course allows students to connect to the community through projects and interviews, to explore companies and careers, to reinforce reading and writing across the curriculum strategies, and to recognize and apply the concepts of business ethics. Integrated academic skills sections help teachers reinforce student learning to help meet NCLB guidelines and provide rigor. Research-based reading strategies help students improve reading skills and comprehend key concepts and information. Partnerships with Standard and Poor and Business Week, the leading global resource for ground-breaking business news, provide real-world activities that bring relevance to learning. Current topics such as globalization, ethics, technology, and cultural diversity are covered.

Course Outline  Level: UL
Basic economic concepts  Business ethics and social responsibility
Owning and operating a business  Influences on business
Marketing  Human Resources
Financial and technological resources  Career planning in a global economy
Buying goods and services  Understanding credit
Money management  Risk management
Standard and Poor Activities/Case studies  Business Week online case studies

This is an accelerated course designed for the potential college student who plans on majoring in business administration or management. The course begins with the basic structure of accounting and the accounting equation. Study progresses from the complete cycle for a sole proprietorship, to the accounting cycle for partners and corporations. In addition, it covers special journals, payroll accounting, depreciation and accounting control systems. Students work with standard and computer automated systems. This course may serve as the third year of math in fulfilling the MHS graduation requirement.

Course Outline  Level: 1
The Accounting Equation  Using a Worksheet
Changes that Affect Owner’s Equity  Financial Statements
Debit and Credit Parts  Adjusting and Closing Entries
Recording in the General Journal  Special Journals
Posting to the General Ledger  Payroll Accounting
Cash Control Systems  Taxes & Reports
639 Introduction to Marketing
Prerequisite: Grade 10 and above
4 Credits

This is a preparatory course for students interested in careers in the marketing field and participation in the Marshfield DECA program. Study will consist of general marketing principles as well as entrepreneurship and business development. Class case studies will hone students' critical thinking and problem solving skills as they apply marketing principles to present solutions to these work-related situations. Creativity is a must as you develop your own business plan and design marketing campaign to apply what you have learned in this class. A DECA marketing research project is required for students seeking level one credit for this course.

Course Outline  Level: UL
The World of Marketing
Entrepreneurship & Finance
Product & Service Management
Marketing Information Management
The Selling Process
Product, Place, Promotion & Pricing
Visual Merchandising
Communication Skills
Employability & Career Development
Preparation for DECA Competitions

652 Financial Management
Prerequisite: Must be enrolled in Level 1 English or have teacher approval
4 Credits

Financial Management is a course developed in response to initiatives by the Federal Government to educate and enhance the financial literacy of youth. The National Endowment for Financial Education has developed the NEFE High School Financial Planning Program, which supplements the textbook. Components of this course are personal finance, saving, investing, and related research. Students will have a complete understanding of how to research stocks, mutual funds, and individual corporations and will be able to make informed choices regarding their financial future. Research related to financial decisions concerning college choice, personal investments, and living independently are some of the technological aspects for this course.

Course Outline  Level: 1
The importance of financial planning
Budgeting-terms and ideas
Understanding mutual funds
Investment principles
Estimating growth rates
Buying and selling stock
Developing a career plan
Stock market literacy
Protect yourself- insurance fundamentals
Plotting and analyzing financial data
Evaluating risk and reward

621 Contemporary Mathematics
Prerequisite: None
4 Credits

Course Outline  Level: 2
Despite the technological changes in the business world, there remains a critical need for basic business and personal math skills. Contemporary Mathematics provides the student with the opportunity to develop these skills using a structured, challenging, and organized approach. Essential components of the program include sections where mathematical principles are applied to real-world situations. This course prepares students to understand and manage their personal finances, as well as to grasp the fundamentals of business finance. The course also prepares students to be smart consumers, informed taxpayers and values employees. Students will apply mathematical principles to a spreadsheet and complete a simulation activity at the beginning of every chapter. The course aligns with the Jump$tart Coalition’s National Standards for Personal Financial Literacy and covers the competencies defined by NBEA's National Standards for Business Education.
679 Entrepreneurship & Small Business Management 8 Credits
Prerequisite: Intro to Marketing (639) or College Accounting (641) & teacher approval

This eight credit course (meets every day) was redesigned to offer students a hands-on experience in the application of marketing and management skills in the school store. Students need to have prior background knowledge of business to effectively apply these skills. This is a project based class utilizing student’s expertise in finance or marketing to run a profitable business providing funding for the school’s growing DECA program. Students are expected to participate in the DECA program and this course requires time outside of the classroom with inventory selection and working in the store before and/or after school. They will plan and participate in business meetings, demonstrate management activities, conduct business negotiations, purchase merchandise, relate retail operations to marketing strategies and many other skills as outlined in the Massachusetts Vocational Technical Frameworks for Marketing Education.

<table>
<thead>
<tr>
<th>Course Outline</th>
<th>Level: 1</th>
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</thead>
<tbody>
<tr>
<td>Researching your market</td>
<td>Safety and security in a business</td>
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<tr>
<td>Developing a Business Plan</td>
<td>How to be an effective manager</td>
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<tr>
<td>Accounting for profits</td>
<td>How to achieve personal success</td>
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<tr>
<td>Inventory control</td>
<td>Resume writing and interview skills</td>
</tr>
<tr>
<td>Promoting your business</td>
<td>Preparation for DECA Competitions</td>
</tr>
</tbody>
</table>

680 Strategic Leadership & Management 8 Credits
Prerequisite: 679 and instructor approval

This eight credit course (meets every day) is designed for the student who has followed the business track at Marshfield High School and excelled in the Entrepreneurship & Small Business Management course. It provides an emphasis on strategic planning for the school store and requires a strong leadership role in the development of our operations teams. Students will be able to make management decisions that determine long term planning. They will work on strategy formulation, implementation and evaluation of their decisions. The goal of this course it to take a broader look at operations and see the “bigger picture”, how each department affects each other and developing strategies to find success overall. Students are expected to participate in the DECA program and this course requires time outside of the classroom with inventory selection and working in the store before and/or after school. This course follows the Massachusetts Vocational Technical Frameworks for Marketing Education.

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<td>Corporate culture and leadership</td>
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<tr>
<td>Mission and vision casting</td>
<td>Ethics and social responsibility</td>
</tr>
<tr>
<td>Positioning strategy and competitive advantage</td>
<td>Evaluation and control</td>
</tr>
<tr>
<td>Strategic implementation</td>
<td>Current trends and new challenges</td>
</tr>
</tbody>
</table>
Comprehensive Health

Family and Consumer Science

713 Principles of Nutrition and Culinary Arts
Prerequisite: None
4 Credits

This course will introduce students to the science of nutrition and the relation of diet to optimal health and performance as well as to disease prevention. It will provide students with the knowledge and skills to plan and prepare a nutritionally rewarding diet to maximize their energy level, manage a healthy weight, improve athletic performance and to prevent diseases such as obesity, cardiovascular disease, diabetes and eating disorders. Students will have the opportunity for practical application of their knowledge through food preparation labs, evaluating their own nutritional habits and developing plans for maintaining optimal nutritional health throughout the lifespan.

Course Outline  Level: UL
Basic nutrients for health-functions and sources
USDA dietary guidelines
Energy metabolism and healthy weight management
Healthy cooking techniques

Sports nutrition
Deciphering nutrition labels
Diet and disease management

716 Café Management/Bakery
Prerequisite: C or above in Principles of Nutrition and students must pass a sanitation and safety exam.
4 Credits

This course is designed for students with experience in culinary arts that can work independently. Students will create bakery products for faculty and supervise the Café.
**723 U.S. and International Foods**

Prerequisite: Pass 713  
4 Credits  

U.S. and international food and eating patterns will be explored. Food preparation with a focus on the wide variety of regional and cultural choices will be stressed through daily laboratory work and research. Basic cooking techniques will be emphasized.

**Course Outline**  
Level: UL

- Food safety and sanitation
- Cultural and food practices of U.S. regions
- Culture and food practices of Latin America
- Culture and food practices of Europe
- Culture and food practices of Mediterranean countries
- Culture and food practices of Asia
- Career opportunities in the food industries

**730 Restaurant Management I**  
Prerequisite: C or above in both 713 and 723  
8 Credits  

Restaurant management has been designed for students who would like to further develop their skills and knowledge in the restaurant industry. First year students will follow the *Johnson and Wales Culinary Essentials Curriculum* and master the skill set that will prepare them for Restaurant Management II. Students will operate a small restaurant serving faculty and students.

**Course Outline**  
Level: UL

- Customer relations
- Preparing and serving safe food
- Cost/Menu planning
- Kitchen basics
- Safety, sanitation and equipment
- Food procurement
- Nutrition and healthy food choices

**752 Restaurant Management II**  
Prerequisite: C or above in Rest Management (730)  
8 Credits  

Restaurant Management II has been designed for students who are planning to pursue a career in the food industry. Students will continue with the *Johnson and Wales Culinary Essentials Curriculum*. Students will operate a small restaurant serving faculty and students.

**Course Outline**  
Level: UL

- Desserts and baked goods
- Marketing the menu
- Purchasing and inventory control
- Meat/poultry and seafood
- Stocks/soups and sauces
- Communicating with the customer
- Nutrition and healthy food choices

**Health**

**9010 Health- Grade 9**  
Prerequisite: None  
1 Credit  

Students will receive instruction and practice responsible, informed decision-making involving substance abuse, relationships, disease prevention, and coping with stress. Letter grades will be given and credit awarded upon successful completion. This is a required course for graduation.

**Course Outline**  
Level: UL

- Mental illness including depression
- Suicide prevention
- Sexual harassment
- Sexually transmitted infection prevention
- Teen dating violence and healthy relationships
- Alcohol and Prescription Drug Use
- Reproductive system
- Stress management
907 Health – Grade 11  Prerequisite: None  1 Credit

Students will receive instruction and practice responsible, informed decision-making. Students will complete a genogram to determine the role of heredity and lifestyle choices and will have the opportunity to become certified in CPR. Letter grades will be given and credit awarded upon successful completion. This is a required course for graduation.

Course Outline  Level: UL
Genogram/Health inventory record  CPR and AED certification training
Preventable Diseases  Consequences of Teen parenting
Nutrition for disease prevention

Physical Education  (Phys. Ed. is a four-year graduation requirement)

9009  9th Grade Physical Education  Prerequisite: None  No Credit

Physical education is based on health-related fitness and developing the skills and habits necessary for a lifetime of activity. Activities in this course will include a focus on five components of fitness. Activities such as aerobic exercise, team sports, recreational sports, individual sports, dual sports and modified sports will be used to create an interest in developing and maintaining a healthy lifestyle.

Course Outline  Level: UL
Self-defense techniques  Ultimate Frisbee  Heart rate monitor training
Project Adventure  Intro to Yoga/Pilates  Volleyball
Games  Team challenge

Students in grades 10, 11 and 12 will rank order the following offerings with their counselor and will be placed into the highest priority course their schedule allows:

9018 Competitive Games  Prerequisite: None  No Credit

This is an extremely active class focused on developing mastery of skills, strategies, rules and previously learned movement knowledge regarding physical activities. Numerous competitive sports and activities will be offered. Assessment will be based upon strategic acquisition and participation. In this course students will engage in physical activities that provide the opportunity for enjoyment, personal challenge, self-expression and social interaction.

Course Outline  Level: UL
Football  Soccer  Basketball  Volleyball
Racquet sports  Broom Ball  Ultimate Frisbee  Handball
**9019 Recreational Sports and Activities**  
Prerequisite: None  
No Credit

In this course the student will actively participate in non-competitive games and activities. The focus is on the acquisition of knowledge related to how to play games and the improvement of basic skills. This is a course for all fitness and ability levels.

**Course Outline**  
**Level:UL**
- Horseshoes
- Bocce Ball
- Intro to Pilates
- Pedometer Training
- Base Games
- Frisbee
- Badminton
- Fitness Walking
- Croquet
- Fitness Center
- Heart rate monitoring

**9021 Yoga and Pilates**  
Prerequisite: None  
No Credit

This course is designed to introduce students safely to the basic postures, breathing techniques and relaxation methods of yoga and Pilates. Students will begin to experience the benefits of muscular strength, endurance, flexibility, balance, relaxation and stress reduction. Students will gain a greater understanding of the relationship between the mind and the body.

**Course Outline**  
**Level:UL**
- History and philosophy of yoga
- Styles of yoga
- Introduction to Pilates
- Definitions/Etiquette
- Poses
- Core exercises

**9022 Personal Fitness**  
Prerequisite: None  
No Credit

This course is designed for students who have a strong interest in creating and participating in an individualized fitness workout. Class will meet in the fitness center and students will design a fitness routine that best meets their personal training needs. Students will have the opportunity to work out on the cardiovascular equipment and weight training equipment. Students must be motivated to complete their workouts during class and will evaluate their physical fitness level using a variety of methods and assessments.

**Course Outline**
- Create and assess personal fitness plan
- Demonstrate proper position and posture of core movements
- Demonstrate use of all fitness equipment
VISUAL & PERFORMING ARTS

Visual Arts
Music
Theatre Arts
Visual Arts

Course Offerings at Marshfield High School begin with one semester of Art I (811) and one semester of 3-D Design I (812), which are combined as a full year course of study to meet the Art requirement needed for graduation. The semester courses serve as a foundation to the sequential course of study in the arts offered throughout all four years of high school.

Sequential offerings after Art I include Art II, Art III, Art IV and Advanced Placement Drawing/2-D Design. Sequential offerings after 3-D Design I include 3-D Design II, 3-D Design III, 3-D Design IV and Advanced Placement 3-D Design. Digital photography course selections are also offered through the Art Program.

All art courses are designed to enhance students’ appreciation for the arts, knowledge of aesthetics, art history and the role of artists in the past and present day. Students will practice problem solving skills to develop resilience and sustained focus on their personal ideas. In addition, students learn new communication skills by using the elements and principles of design they learn in each course.

811 Art I  Prerequisite: None  2 Credits
Note:  811 and 812 are combined as a full year course which meets the Art requirement for graduation.

Course Outline  Level: UL
Art I is an introductory 2-D art course that is designed to give students a brief overview of various art materials and skills. The main foundation of this course rests on the elements of art and principles of design, which are introduced and explored in every project. Students learn these important elements which carry through all four years of art courses and serve as building blocks for more advanced lessons. By the end of the semester students should have a basic understanding of the following materials and concepts:

**Materials:**
- Sharpie
- Graphite
- Oil Pastels
- Watercolors
- Tempera Paint
- Collage

**Skills/Concepts:**
- Line/Value/Space/Texture
- Color mixing/Color theory
- Drawing techniques
- Painting techniques
- Art History- historical and contemporary
- Critiques/Personal reflections
- Using sketchbooks
812 3-D Design I  Prerequisite: None  2 Credits
Note:  811 and 812 are combined as a full year course which meets the Art requirement for graduation.

Course Outline  Level: UL
This is an introductory course in 3-Dimensional Design. Students will be introduced to a variety of 3-D art materials such as clay, cardboard, plaster, wire and paper. The elements and principles of design will be used to broaden students’ understanding of art-making and art appreciation. Students will be expected to maintain a sketchbook to plan for projects before beginning and complete written reflections upon completion of projects.

Materials:  
Clay  
Wire  
Plaster  
Paint  
Recycled Materials

Skills/Concepts:  
Handbuilding  
Glazing/Underglazing/Surface techniques  
Using mixed media  
Conveying messages with imagery  
Reflective writing and sketchbooks

821 Art II  Prerequisite: C- in Art I, 811  4 Credits

Course Outline  Level: UL
Art II is a full year course designed to review and deeply cover the elements of art and principles of design. Students in this course will use and improve upon their observational skills as well as their own creativity. Many new techniques and terms will be explored with some familiar mediums from Art I, in addition to unexplored materials. Projects will revolve around personal experiences, art history, design elements and advanced techniques. In addition to drawing and painting, printmaking and mixed media projects are also included.

Materials:  
Charcoal  
Pencil  
Chalk Pastels  
Watercolors  
Linoleum Block Printing  
Tempera Paint  
Oil Pastels  
Marker/Pen and Ink  
Colored Pencil  
Photoshop  
Collage

Skills/Concepts:  
Refining observational skills  
Understanding composition rules  
Color Theory  
Using sketchbook  
-record process, plan ideas  
-complete practice activities  
-written responses  
-extra credit drawings  
Elements of art  
Principles of design

822 3-D Design II  Prerequisite C- in 3-D Design I, 812  4 Credits

Course Outline  Level: UL
3-D II is a full year course that builds on the skills of 3-D I and explores new materials and techniques. 3-D II emphasizes creative problem solving and divergent thinking. Students will also explore conveying messages with imagery. Students are expected to maintain a sketchbook and reflect upon completed work. By the end of the year students will have explored the following materials and skills:
### 831 Art III
**Prerequisite C- in Art II, 821**

- **Materials:**
  - Clay
  - Recycled Materials
  - Plaster
  - Textiles
  - Wire

- **Skills/Concepts:**
  - Handbuilding
  - Glazing
  - Wheel throwing
  - Abstract sculpture
  - Conveying messages through imagery
  - Reflective writing/Critiques
  - Using sketchbooks

**Course Outline**  
Level: UL

Art III is a full year course designed to continue students’ usage and understanding of the elements of art and the principles of design as they relate to 2-D artworks. Students will explore how art can be used for visual communication and start to expand and improve upon their own personal style. Many art projects will focus on art history, spanning from old masters to contemporary artists. Students will make a sketchbook in class that is used for homework assignments, such as preliminary sketches and brainstorming for large projects. By the end of this class students will have many college portfolio pieces completed.

- **Materials:**
  - Colored Pencil
  - Charcoal
  - Linoleum Block Printing
  - Stenciling
  - Acrylic Paint
  - Tempera Paint
  - Watercolor
  - Pen and Ink/Ink Washes
  - Oil Pastels
  - Collage
  - Mixed media

- **Skills/Concepts:**
  - Portrait Drawing
  - Acrylic Painting Techniques
  - Expressing moods with color
  - Conveying messages with imagery
  - Understanding personal aesthetics
  - Advanced Color Theory
  - Using mixed media
  - Observational skills
  - Using sketchbooks to plan and reflect
  - Critiques
  - Preparing and creating work for portfolios

### 832 3-D Design III
**Prerequisite: C- in 3-D Design II, 822**

- **Materials:**
  - Clay (Earthenware)
  - Wire
  - Plaster
  - Paint
  - Recycled Materials
  - Clay (Stoneware)
  - Textiles

- **Skills/Concepts:**
  - Handbuilding
  - Glazing
  - Using mixed media
  - Conveying messages through imagery
  - Reflective writing
  - Wheel throwing
  - Understanding personal aesthetics
  - Relationship between form and function

**Course Outline**  
Level: UL

3-D III is a full year course designed to continue students’ usage and understanding of the elements of art and principles of design as they relate to 3-D artworks. Students will explore both historical and contemporary sculptural and functional 3-D artworks as they continue to refine their knowledge of craftsmanship and visual communication skills. Students will start to expand and improve upon their personal styles. Homework and/or out of class work time may be required. Students will be expected to maintain a sketchbook to plan for projects before beginning and to complete written reflections upon completion. In class group and peer critiques will be used.
**839 Digital Photography and Alternative Methods**  Prerequisite: Art I, (Junior & Senior)  4 Credits

**Course outline  Level: UL**  Note: Digital SLR Camera is available to borrow.
A creative course designed to explore photography as an art form. Students will be taught the basic skills of aperture priority, shutter control and concepts of using a digital SLR camera. Students will also practice file and storage management and social media posting responsibilities. Students will utilize techniques of composing, editing and printing their photographs. Students will be working in a Mac lab while using Adobe Photoshop for editing, organizing which is an integrated part of the creative process. The course will also include photography as an art form by using alternative methods and unconventional applications.

**Skills/Concepts:**
- Functions of the Digital SLR Camera
- File management
- Aperture priority
- Shutter priority
- Guides to good composition
- Photo Transformations
- History of Cameras and Photography
- Master Photographer research project
- Alternative applications and digital negatives
- Cyanotype Chemical processing

**841 Art IV (Advanced Drawing & Painting)**  Prerequisite: C- in Art III, 831  4 Credits

**Course Outline  Level: UL**
This course is designed to increase the individual’s capacity for independent understanding and enjoyment of art. Advanced problems in drawing, painting and design will give the student an opportunity to further his/her study in the visual arts. The course will cover such areas as figure drawing, still life, acrylic painting, computer art and the history of art. Students planning on attending art school will be required to prepare art portfolios. Homework assignments will be given.  **A sketchbook is required.**

**Materials:**
- Drawing Material: Charcoal, pastels, pencil
- Advanced Observational skills
- Watercolor
- Action painting
- Acrylic paint
- Contemporary Abstract art
drypoint etching
images of Marshfield
mixed media
Composition series
recycled materials
upcycled books (functional vs nonfunctional art)

**842 3-D Design IV**  Prerequisite: C- in 3-D Design III, 832  4 Credits

**Course Outline  Level: UL**
3-D IV is a full year course designed to challenge students’ abilities through advanced level problem-solving projects. Students are expected to be self-motivated learners as they expand their individual understanding and enjoyment of 3-D art. Students will continue the explorations of 3-D III as well as build on their visual communication skills to create artworks appropriate for inclusion in a college portfolio. Students will participate in the photography and presentation of their work. Students will expand and improve upon their personal styles. Homework and/or out of class work time may be required. Students will be expected to maintain a sketchbook to plan for projects before beginning and to complete written reflections upon completion. In class group and peer critiques will be used.
**Materials:**
Clay (Earthenware)
Wire
Plaster
Paint
Recycled Materials
Clay (Stoneware)
Textiles

**Skills/Concepts:**
Handbuilding
Glazing
Using mixed media
Conveying messages through imagery
Reflective writing
Wheel throwing
Understanding personal aesthetics
Relationship between form and function

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**847 AP Studio Art: Drawing/2-D Design**  
Prerequisite: Approval of Dept. Head  
4 Credits

Note: an AP portfolio is required for this class.

**Course Outline**
The AP Studio Art class is meant to encourage creative and systematic investigation of formal and conceptual issues. The class is for highly motivated students who are seriously interested in the study of art and the program demands significant commitment. Students will be assisted with their art making by developing their technical skills and familiarize them with the functions of the elements. Students will complete a portfolio of 24 pieces of artwork including 12 works promoting the specific skills they bring to their artwork and 12 concentration pieces. The concentration will be developed halfway through the class and is to be connected by material and/or subject.

**Materials:**
Drawing Material: Charcoal, pastels, pencil
Watercolor
Acrylic paint
Drypoint etching
Mixed media
Recycled materials

**Skills/Concepts:**
Advanced Observational skills
Action painting
Contemporary Abstract art
Images of Marshfield
Composition series
upcycled books (functional vs nonfunctional art)

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**848 AP Studio Art: 3-D Design**  
Prerequisite: Approval of Dept. Head  
4 Credits

Note: an AP portfolio is required for this class.

**Course Outline**
AP is a full year course in 3-D design equivalent to a first year college course. Students who elect this course will prepare a digital portfolio of student 3-D works to be submitted to the AP Board for possible college credit. Additional studio time is expected. Students should be self-motivated learners with excellent time management skills.

**Materials:**
Clay (Earthenware)
Wire
Plaster
Paint
Recycled Materials
Clay (Stoneware)
Textiles

**Skills/Concepts:**
Handbuilding
Glazing
Using mixed media
Conveying messages through imagery
Reflective writing
Wheel throwing
Understanding personal aesthetics
Relationship between form and function
Music

The Marshfield High School Music Department seeks to offer each student musically rewarding and educational experiences through a set of course offerings which suit a range of abilities and interests. To that end, we offer entry-level band, chorus, and string ensembles (no audition required), and advanced band, jazz, chorus, and string ensembles (entrance by audition). Students should see their music teacher or a member of the music staff for audition requirements. The MHS Music Department also offers non-performance based music theory classes. Jazz Band II and Color Guard are extra-curricular activities. More detailed information is available in the Marshfield Public Schools Music Department Handbook available in the MPSD website under “Policies”.

8013 Concert Choir  Prerequisite: None  4 Credits

Concert Choir is a mixed chorus for singers grades 9-12. Emphasis is placed on achieving a balanced, blended choral sound through a variety of music from the choral repertoire of classical to popular music. Lessons are centered on reading music and proper vocal production in small and large ensemble settings. Attendance at all concerts Winter/Spring/Pops is expected, and participation in music festivals and performances is encouraged. Singers enrolled in this course also have a wide variety of group and individual performance opportunities that are optional throughout the year including community performances, singing the National Anthem at a Providence Bruins and Boston Celtics games, solo night, Choral Consortium with the Plymouth Philharmonic and various school events. Students will also have the opportunity to participate in music department performance trips to New York City and Disneyland, CA.

Course Outline  Level: 1

Vocal Technique  Sight-Reading
Listening/Analyzing  Performance Skills
Small and Large Group Performances  Historical Perspective
Music Fundamentals  Ensemble Technique

8017 Concert Band  Prerequisite: Reasonable proficiency on a band instrument.  4 Credits

The purpose of this course is to give students the opportunity to study and perform a wide variety of music. Music reading and some music theory are also studied. Emphasis is placed on the study and performance of selected band literature representative of a wide range of styles, composers, forms, periods and nationalities. Performances are considered a part of this course and are required of all members. Participation in Marching Band is required of all class members.

Course Outline  Level: 1

Music reading skills  Individual technique
Performance skills  Historical perspective
Fundamental music theory  Ensemble technique
Listening skills
8018 Orchestra/String Ensemble  Prerequisite: Reasonable proficiency on string instrument   4 Credits

The purpose of this course is to give students the opportunity to study and perform a wide variety of music. Music reading and some music theory are also studied. Emphasis is placed on the study and performance of selected string and/or orchestra literature representative of a wide range of styles, composers, forms, periods and nationalities. Performances are considered a part of this course and are required of all members.

Course Outline   Level: 1
Music reading skills  Fundamental music theory
Individual technique  Ensemble technique
Historical perspective  Listening skills
Performance skills

8010  Music Theory I  Prerequisite: None   4 Credits

This interactive course is offered to students grades 9-12. Music Theory I will concentrate on the elements of music including notation, key signatures, harmony, scales, ear-training, arranging, listening/analyzing, and composition. Students will learn basic/beginning piano skills as a part of their coursework. The curriculum focuses on teaching concepts through familiar music (folk songs, popular, movies) to help students further understand the music they listen to everyday. Each student will have their own “music technology work station” complete with computer equipped music software and piano keyboard. Music Theory I fulfills the computer requirement for graduation and will be offered in our new Music Technology Lab. This course can either be taken on its own or with the intent of continuing with AP Music Theory.

Course Outline:  Level: 1
Notation  Composition
Harmony  Music Technology
Ear-training  Piano Fundamentals
Listening and Analyzing  Computer Skills

8026  Marshalairs  Prerequisite: Audition   4 Credits

Marshalairs is the only auditioned choral ensemble at Marshfield High School, with singers grades 9-12 working toward excellence through the study of masterworks of choral repertoire from various genres of music. Strong musicianship and a focused attitude are required of all members. Individual singing and part testing is a regular part of the rehearsal. Lessons are centered on reading music and proper vocal production in small and large ensemble settings. Attendance at all concerts is expected, and participation in music festivals is encouraged. Singers enrolled in this course also have a wide variety of performance opportunities throughout the year including community performances, singing the National Anthem at a Providence Bruins and Boston Celtics game, solo night, Choral Consortium with the Plymouth Philharmonic, holiday performance at Beth Israel Hospital and Dana Farber Cancer Institute, and the opportunity to participate in music department trips to New York City and Disneyland, CA.

Course Outline   Level: 0
Vocal Technique  Sight-Reading
Listening/Analyzing  Performance Skills
Small and Large Group Performances  Historical Perspective
Music Fundamentals  Ensemble Technique
8027 Jazz Ensemble  
Prerequisite: Audition  
4 Credits

The purpose of this course is to give the musically advanced jazz musician an opportunity to rehearse and perform a wide variety of advanced jazz ensemble repertoire. In addition, students will have the opportunity to explore jazz improvisational techniques by studying various scales, chord structures, musical forms and jazz history. Performances are considered a part of the course and are required of all members.

Course Outline  
Level: 0
Reading music in the jazz style  
Individual technique
Performance skills  
Historical perspective
Listening skills  
Ensemble technique

8028 Chamber Orchestra  
Prerequisite: Audition  
4 Credits

The purpose of this course is to give musically advanced string students the opportunity to study and perform a wide variety of more advanced orchestral music. Music reading and some music theory are also studied. Emphasis is placed on the study and performance of literature representative of a wide range of styles, composers, historical periods, forms, and nationalities. Performances are considered a part of the course and are required of all members.

Course Outline  
Level: 0
Music reading skills  
Fundamental music theory
Individual technique  
Ensemble technique
Historical perspective  
Listening skills

8030 AP Music Theory  
Prerequisite: Music Theory I or pass proficiency exam  
4 Credits

By definition, an Advanced Placement Music Theory course must be comparable in content and expected level of accomplishment to a first year course in college. The course is designed to encompass an in-depth study of the fundamental elements of music and promote fluency with basic music materials. This course integrates the study of melody, harmony, texture, rhythm, and form. Time is devoted to the analysis of notated examples; to the development and acquisition of aural (listening) skills, sight singing, and keyboard harmony; and two part writing and harmonization. The student who successfully completes this course should be able to recognize and describe basic materials and processes of music as performed or presented in score. Students should understand the "why" of music as well as the "what". Equally important, AP Music Theory students develop a unique melding of intellect, discipline, and creativity which is integral to the development of musicianship. Each student will have their own “music technology work station” complete with computer equipped with music software and piano keyboard. Our classroom setup allows for students to work both independently and as group. This course fulfills the computer requirement for graduation and will be offered in our new Music Technology Lab. The music lab enables students to explore music technology and music software in an individualized interactive classroom setting. Students are required to take the AP Music Theory Exam.

Course Outline  
Level: AP
Review of Music Theory I Course  
Ear-Training
7th Chords/Secondary Dominants  
Sight-singing
Voice Leading in 4-parts  
Musical form and analysis
Secondary Dominants  
Listening/analyzing
Counterpoint  
Composition
8037 Wind Ensemble  Prerequisite: Audition  4 Credits

The purpose of this course is to give musically advanced students the opportunity to study and perform a wide variety of advanced wind ensemble music. Music reading and some music theory are also studied. Emphasis is placed on the study and performance of literature representative of a wide range of styles, composers, historical periods, forms and nationalities. Performances are considered a part of this course and are required of all members. Participation in Marching Band is required of all class members.

Course Outline  Level: 0
Music reading skills  Individual technique
Performance skills  Historical perspective
Fundamental music theory  Ensemble technique

8093  Treble Choir  Prerequisite: None  4 Credits

Treble Choir is an ensemble that highlights soprano and alto voices grades 9-12. Emphasis is placed on achieving a balanced, blended choral sound through a variety of music from the choral repertoire of classical to popular music. Lessons are centered on reading music and proper vocal production in small and large ensemble settings. Attendance at all concerts Winter/Spring/Pops is expected, and participation in music festivals is encouraged. Singers enrolled in this course also have a wide variety of group and individual performance opportunities that are optional throughout the year including community performances, singing the National Anthem at a Providence Bruins and Boston Celtics game, solo night, Choral Consortium with the Plymouth Philharmonic and various school events. Students will also have the opportunity to participate in music department trips to New York City and Disneyland, CA.

Course Outline  Level: 1
Vocal Technique  Sight-Reading
Listening/Analyzing  Performance Skills
Small and Large Group Performances  Historical Perspective
Music Fundamentals  Ensemble Technique
THEATRE ARTS

The English Department provides through theatre arts a survey approach to all three elements of theatre: acting, directing/producing and technical theatre. Students may move sequentially through a potential four year program which will examine the literature, art and history of the discipline offering opportunities of performance and practical experience. Theatre arts also offers a number of interdisciplinary opportunities with other academic departments as students may better comprehend the many facets of theatre.

155 Introduction to Theatre  Prerequisite: None (Grades 9-12)  4 Credits

Introduction to Theatre is a survey course which explores the three disciplines of theatre arts: Acting, Directing and Technical Theatre. Students will develop acting skills through solo performance, ensemble work and script analysis of both classic and modern plays. Student will examine scripts from the director’s point of view through projects, models, and presentations to better understand the artistic vision necessary to create a production. Students will follow the design process of a production through construction in the six major technical theatre fields: Set costumes, Properties, Lights, Sound, and Makeup. They will develop their own designs and execute them for each discipline.

Course Outline  Level: 1
Acting I: Movement, pantomime  Acting II: The characterization process
Directing I: Role of dir., prod., prod. team and space  Directing II: Working with the script
Technical Theatre I: Set, lighting and sound  Technical Theatre II: Props, costumes and makeup
Historical Profile I: Sophocles, Shakespeare and Moliere  Historical Profile II: Chekhov, Beckett and Wilson

156 Acting I  Prerequisite: Introduction to Theatre and teacher recommendation  4 Credits

As an exploration and development of imaginative processes and basic techniques of acting, this course concentrates on the development of imagination, observation, focus of attention, and the effective use of materials drawn from life. Students will work on acting scenes, which include an approach to textual analysis, as well as practice in communication and personal involvements.

Course Outline  Level: 1
Physical and voice preparation  Stage movement and blocking
Dramatic elements  Oral interpretation principles
157 Acting II  
Prerequisite: Introduction to Theatre, Acting I  
4 Credits

This class will provide students with a historical survey of the literature of Drama. Beginning with the Greek traditions of Euripides, the renaissance classics of Shakespeare and Moliere, an exploration of realism from the works of Anton Chekhov and Henrik Ibsen, the Victorian comedy of manners such as Oscar Wilde and Richard Brinsley Sheridan, to the more contemporary works of George Kaufman, Arthur Miller, Neil Simon and David Mamet, students will read, prepare and perform scenes for evaluation and audition. Students will learn the work of the Dramaturges and the great importance that they play in staging a performance. Advance work in movement and voice will also be featured.

Course Outline  
Level: 1
The Founding Greeks  
American Theatre  
Rome to Renaissance  
American Contemporaries  
Renaissance to Realism  
Developing concentration  
Victorian Comedy of Manners  
Understanding dramatic action  
Age of Realism  
Understanding character needs and conflict  
Non-Realistic Theatre  
Range, listening and learning lines  
Theatre of the Absurd  
Understanding given circumstances  
American Comics

153 Technical Theatre  
Prerequisite: Introduction to Theatre & Instructor Approval  
4 Credits

Technical Theatre is an exploration of the six disciplines of technical theatre: scenery, properties, costumes, makeup, lighting & sound. This project-based class will allow students to analyze dramatic literature and interpret their analysis through each of the professional disciplines that work backstage at a theatre. Students will study the process of technical design based on their literary analysis and follow the process through the execution of their design. Their progress will develop into an academic portfolio suitable for college admission.

Course Outline  
Level: 1
The Design Process: Style & Composition  
Makeup: Design, Application, & 3D  
Scenic design: Materials, process, & painting  
Sound: Design & Technology  
Stage properties: Design and techniques  
Mechanical Drawing  
Stage Lighting: Design, theory, Production & projections  
Perspective Drawing & Rendering  
Costumes: Design and construction
ADDITIONAL STUDENT DEVELOPMENT OPTIONS
ADDITIONAL STUDENT DEVELOPMENT OPTIONS

Student Library Aide

This course is designed to introduce students to the basic concepts and procedures involved in providing information resources and services to the school community. Students will be introduced to the basic research and reference tools available and how to use them. They will also be trained in the operation of the Library Media Center including: Periodical and Vertical File maintenance and updating, book collection maintenance, acquisitions and cataloging, circulation policies and procedures, plant maintenance, publicity and information dissemination, and patron services. Admission by application only, available in the Library Media Center. Additional instruction and/or production work after school may be required.

Work-Study Opportunities

The work-study program offers students in special circumstances an opportunity to earn credits towards graduation for working a minimum of 20 hours per week. Prior to working for credit, students must submit the following to the Marshfield High School Guidance office for principal approval:

• a completed work-study application
• a letter from the employer verifying employment and hours worked
• a letter requesting work study from the student’s parent/guardian

Work-study applications are available in the Marshfield High School Guidance Office.

Work-Release Opportunities

Work-release is a privilege offered to seniors who are academically in good standing, have a study hall last block of the day, and are employed a minimum of 20 hours per week. Prior to being placed on work release, students must submit the following to the Marshfield High School Guidance office for principal approval:

• a completed work-release application to the principal
• a letter from the employer verifying employment and hours worked
• a letter requesting work release from the student’s parent/guardian

Work-release applications are available in the Marshfield High School Guidance Office. If approved, the student is issued a special pass enabling them to be dismissed to work on their early days. Failure to comply with school rules and regulations, or to meet academic eligibility standards, may result in the loss of the work-release privilege.
SPECIAL EDUCATION SERVICES
SPECIAL EDUCATION SERVICES

*Scheduling of these courses/programs must happen through the Special Education TEAM process as part of a student’s Individualized Educational Plan (IEP). To review a specific course description, please refer to the Special Education Program Course Description Booklet located in the Special Education Office.

Strategies 9/10 and 11/12

The focus of the Strategies course is to develop post-secondary college/career readiness through the use of transitional academics (i.e., instructional learning strategy training, organizational planning, and coordination of the transition process). The long-term goals of these activities are to ensure that special individual needs are met to maximize the student’s success and independence in post-secondary educational, employment and independent living experiences. An essential component of the Transition curriculum is self-awareness and self-advocacy skills relevant to student’s post-secondary goals.

Students develop:

- The necessary skills of self-advocacy
- Use of technology for research as well as for their educational process organization
- Test-taking/study skills useful for the PSAT/SAT/ACT as well as post-secondary testing
- Knowledge from extensive interests/ability inventories
- Matching the outcome of these inventories to possible career choices
- Career and college options that are researched in depth in preparation for post-secondary educational settings
- A personal portfolio of transition activities for use in their pursuit of a post-secondary educational setting
- Knowledge of individual challenges and accommodations necessary for success in post-secondary education and employment

Adaptive Learning Program (ALP)

The Adaptive Learning Program provides academic instruction for students who:

- Are not making effective progress in the mainstream
- Need small group instruction
- Have been diagnosed with a behavioral, social/emotional or specific learning disability
Goals of the ALP are:

- To bring about academic, behavioral and attitudinal changes through a positive classroom learning environment.
- To aid each student in making better decisions and choices.
- To provide each student with the opportunity for personal growth and positive achievement, enabling the student to eventually return to the mainstream or modified special education classes.
- To encourage active participation in the program which will assist each student in becoming a self-regulated, critical and creative thinker.

The Adaptive Learning Program Classroom includes small group instruction in the core academic classes, utilizing a positive behavior shaping point system and integral involvement with the school adjustment counselors. Courses in all major academic areas are offered.

**Autism Spectrum Disorder Classroom (ASD Class)**

This program is designed for students with a diagnosis of autism or other neurological disorders that result in social and behavioral challenges. The goals of the program are to ensure that all students are able to access the general curriculum as well as to learn functional life skills and participate in activities and classes in a socially and age appropriate manner.

**Language Based Learning Program (LBLP)**

The Language Based Learning Program (LBLP) provides multi-modal instruction across content areas within a small group setting. Highly qualified special and general education teachers deliver specialized, direct and explicit instruction to facilitate the development of skills across the curriculum.

The LBLP is dedicated to fostering the independence and transition of students enrolled in the program. Students are provided intense transition planning that prepares them for learning within the general education setting and for life beyond high school.

The goal of the LBLP is to provide the instructional, technological and therapeutic supports necessary to meet the needs of students who struggle with language based disabilities. Students are encouraged to participate in elective, vocational, athletic and recreational opportunities within Marshfield High School.

The Language Based Learning Program is designed for students whose primary qualification for special education services is the presence of a Specific Learning Disability. Students:

- Exhibit a primary diagnosis of a LBLD which may include: dyslexia, reading disabilities, disorder of written language or expression, dyscalculia, expressive/receptive language disorder
- Exhibit a LBLD that substantially limits the student’s ability to make progress within the general academic setting
- Have not met with success with supports in the general academic setting
- Have average to above average cognitive abilities
Transitional Learning Center (TLC)
The Transitional Learning Center serves students in grades nine through twelve with identified adaptive/social delays and significant intellectual challenges.

Goals of the Transitional Learning Center include:
- Development of communication/language and social skills
- Proficiency in the activities of daily living and inclusion in the community

Reading In the Transitional Learning Center Classroom:
- Students access the Common Core State Standards at “entry” points that are appropriate to their individual needs
- Primary focus is on functional life skills
- All curricula is modified
- Small group instruction is provided in core academic classes
- Electives are offered in the mainstream with aide support when necessary

Content area academics are offered in an individualized program.

Providing Opportunities for Student Transition Program (P.O.S.T.)
The P.O.S.T. Program enrolls students who are 18-22 years old and are challenged with moderate to severe special needs including Autism, Social/Emotional deficits and low cognitive abilities.

Goals of the P.O.S.T. Program are:
- To positively support the acquisition of functional academic and daily life skill sets.
- To collaborate with student families to support student’s attainment of a fulfilling future as a productive member of the community.

The P.O.S.T. program provides:

Daily activities, lessons and learning experiences that are designed to positively engage students, enabling them to generalize their skills and knowledge thereby increasing independence. Practical work experiences used to target the acquisition of skills and enable students to achieve and apply their progress in the following skill sets:

<table>
<thead>
<tr>
<th>Academics</th>
<th>Self-Advocacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social skills</td>
<td>Fine/Gross Motor Skills</td>
</tr>
<tr>
<td>Activities of daily living</td>
<td>Overall Health/Wellness</td>
</tr>
<tr>
<td>Community Involvement</td>
<td></td>
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</tbody>
</table>