

## MANCHESTER ESSEX REGIONAL HIGH SCHOOL

Office of the Principal

February 2012

Dear Manchester Essex Regional High School Students,

This Program of Studies delineates the courses offered at our school for the 2012-2013 school year. As you will discover, Manchester Essex Regional High School offers you, the students, a wide array of courses designed to challenge your minds and prepare you for meeting your individual goals.

For each student, the selection of an appropriate course of studies is an essential component of a meaningful high school experience. As you peruse these pages, consider taking those courses that not only lead you towards your future goals, but also those that pique your curiosity. Each course has something to offer the individual student seeking to expand their knowledge and learn more about the world around them.

Please take time to read through the academic planning information including the section outlining course changes and add/drop policies. Pay close attention to all graduation requirements that apply to all students. Please speak to your teachers and Guidance staff about any prerequisite requirement before you move forward on course selections.

The curriculum at Manchester Essex Regional High School is rich and varied. Avail yourself to some of the elective opportunities that exist as you learn more about yourself and your developing interests. The faculty, staff and administration at the school exist to assist you in your educational journey and to provide you with the information you need to create the schedule that is right for you.

MERHS Administration

## **MANCHESTER ESSEX REGIONAL HIGH SCHOOL**

Manchester-by-the-Sea, Massachusetts 01944

Telephone (978) 526-4412

### **ADMINISTRATION**

Mr. James Lee, Principal

Mr. Paul F. Murphy, Assistant Principal

Mrs. Sharon Maguire, Director of Guidance

### **DEPARTMENT CHAIRMEN**

Ms. Michelle Magana, Foreign Language

Ms. Debra Isensee, English

Mrs. Erica Everett, Science

Mr. Dan Jewett, Social Studies

Mr. Daniel Lundergan, Mathematics

### **DISCLAIMER STATEMENT**

Subsequent to publication of this catalog, Manchester Essex Regional High School reserves the right to make changes in courses, program requirements, policy and regulations as circumstances, funding, and enrollment dictate. **There is no guarantee that any course listed in this catalog will be offered in any given semester.** The on-going work of aligning the curriculum with the Massachusetts Frameworks will, of necessity, result in changes in course content. Students and parents will be informed if changes in course content create a significant difference between the course descriptions as it appears in this *Course of Studies* and the revised course content.

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### **Policy of Non-Discrimination**

It is the policy of the Manchester Essex Regional School District not to discriminate on the basis of race, gender, color, religion, sexual orientation, national origin, age, or disability in its educational programs, services, activities, or employment practices. Inquiries regarding the application of the Manchester Essex Regional School District nondiscrimination policy may be referred to the Civil Rights Coordinator at 36 Lincoln Street, Manchester, Massachusetts 01944.

**Manchester Essex Regional High School  
Program of Studies  
2012-2013**

**Accreditation Statement**

Manchester Essex Regional High School is accredited by the New England Association of Schools and Colleges, Inc., a non-governmental, nationally recognized organization whose affiliated institutions include elementary schools through collegiate institutions offering post-graduate instruction.

Accreditation of an institution by the New England Association indicates that it meets or exceeds criteria for the assessment of institutional quality periodically applied through a peer group review process. An accredited school or college is one which has available the necessary resources to achieve its stated purposes through appropriate educational programs, is substantially doing so, and gives reasonable evidence that it will continue to do so in the foreseeable future. Institutional integrity is also addressed through accreditation.

Accreditation by the New England Association is not partial, but applies to the institution as a whole. As such, it is not a guarantee of the quality of every course or program offered, or the competence of individual graduates. Rather, it provides reasonable assurance about the quality of opportunities available to students who attend the institution.

**MANCHESTER ESSEX REGIONAL SCHOOL COMMITTEE**

Mr. Anton Giedt, Chairperson  
Ms. Caroline Weld  
Mr. James Haskell  
Mr. Greg Carroll  
Ms. Alva Ingaharro  
Ms. Ann W. Harrison  
Ms. Linda Crosby

Ms. Pamela Beaudoin, Superintendent of Schools

## **MISSION STATEMENT**

The mission of Manchester Essex Regional High School is to provide a rigorous, well-rounded educational program in a learning environment that encourages individual growth and prepares all students for the diverse challenges of their futures.

## **EXPECTATIONS FOR STUDENT PERFORMANCE**

The student is able to:

### **ACADEMIC**

1. Read critically for a variety of purposes
2. Communicate clearly to an intended audience

Variety of mediums  
Expressing original thoughts/ideas  
Receptive communication

3. Write effectively
4. Identify and utilize technological and informational resources to gather and synthesize information
5. Demonstrate problem solving and critical thinking skills

### **SOCIAL**

6. Experience personal growth through participation in elective offerings, extra-curricular opportunities and school-sponsored activities
7. Demonstrate respect for themselves, others, and the community

### **CIVIC**

8. Participate in activities that foster citizenship and contribute to the community

## INFORMATION FOR ACADEMIC PLANNING

The following materials should provide students and parents with the information needed to build a solid academic plan for the high school years, with dual goals of meeting graduation requirements and designing a program that challenges each student to meet his or her full potential. Good planning requires ongoing communication among students, parents, teachers and Guidance. We welcome your questions and encourage individual meetings with your child's guidance counselor as needed.

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Students are encouraged to take as intensive a four-year program as possible. Most core courses are yearlong and award 5 credits. Electives may be yearlong or semester courses of 2.5 credits. Each student is encouraged to enroll in 35 credits per year but is required to carry at least 30 credits and to pass the equivalent of 25 credits annually to be promoted to the next grade. Failure to earn a minimum of 20 credits in any given year will result in students repeating the year, they would, however, be able to advance in those courses they passed but their Y.O.G. would increase by one year.

### GRADUATION REQUIREMENTS:

A total of 110 credits are required for graduation, along with successful completion of all areas of the MCAS examination required by the State of Massachusetts, 40 hours of Community Service, and attendance at MERHS for at least one semester.

#### Specific requirements include:

| <u>Subject Area</u>   |          | <u>Credits</u>  |
|---|----------|---|
| English   | 4 years  | 20  |
| Mathematics   | 3 years  | 15  |
| Science   | 3 years  | 15  |
| Social Studies  | 3 years  | 15 (5 must be US History)   |
| Physical Education  | 1 year   | 2.5 in the 9 <sup>th</sup> grade<br>2.5 in the 10 <sup>th</sup> grade |
| Community Service   | 40 hours | 10 hours per year   |
| MCAS (successful completion of ELA, Math, and Science exams)            |          |   |
| <b>The remainder of the 110 credits may be taken in elective areas.</b> |          |   |

**Course Failure:** Students who fail a course but have maintained an average of at least 50% during the school year may be eligible to attend summer school to make up lost credit. . Prior to enrolling in a course the student must have signed approval by his or her Guidance Counselor, class room teacher and Department Chair. Students earning an average less than 50 will be required to repeat the full-year course at MERHS.

There is a possibility for students to “catch up” with their class and graduate “on time” by enrolling in courses offered through online programs or college extension and enrichment opportunities. All courses must be approved by the Principal before the start of the course to be awarded credit by MERHS. Students are encouraged to go beyond requirements in the core areas, especially if planning to major in a particular subject in college. In addition, all students are

strongly urged to take Spanish or French throughout their high school years. Two years of a foreign language are required to attend a state college or university and, in many cases, three or four years are required by other colleges to which our students frequently apply. The following are examples of *typical schedules*:

| <b><u>9<sup>th</sup> Grade Schedule</u></b>    | <b>Credits</b> |
|--|----------------|
| English 9 (College Prep or Honors)             | 5              |
| World History II (College Prep or Honors)      | 5              |
| Foreign Language (College Prep or Honors)      | 5              |
| Algebra I or Geometry (College Prep or Honors) | 5              |
| Physics First (College Prep or Honors)         | 5              |
| Debate (Honors) or another elective            | 5              |
| Health & PE                                    | 2.5            |
| Elective                                       | <u>2.5</u>     |
| <b>Total:</b>                                  | <b>35</b>      |

| <b><u>10<sup>th</sup> Grade Schedule</u></b>    | <b>Credits</b> |
|---|----------------|
| English 10 (College Prep or Honors)             | 5              |
| U.S. History I (College Prep or Honors)         | 5              |
| Foreign Language (College Prep Honors or AP)    | 5              |
| Geometry or Algebra II (College Prep or Honors) | 5              |
| Biology (College Prep or Honors)                | 5              |
| Debate (Honors) or another elective             | 5              |
| Health & PE                                     | 2.5            |
| Elective  | <u>2.5</u>     |
| <b>Total:</b>                                   | <b>35</b>      |

| <b><u>11<sup>th</sup> Grade Schedule</u></b>                       | <b>Credits</b> |
|--|----------------|
| English 11 (College Prep, Honors or AP)                            | 5              |
| U.S History II (College Prep, Honors AP)                           | 5              |
| Foreign Language (College Prep, Honors or AP)                      | 5              |
| Algebra II or Pre-Cal. (College Prep or Honors)                    | 5              |
| Chemistry or another science elective (College Prep, Honors or AP) | 5              |
| Debate (Honors), Marketing I or another elective                   | 5              |
| Elective   | <u>5</u>       |
| <b>Total:</b>  | <b>35</b>      |

| <b><u>12<sup>th</sup> Grade Schedule</u></b>  | <b>Credits</b> |
|---|----------------|
| English 12 (College Prep, Honors or AP)       | 5              |
| Social Studies (College Prep, Honors or AP),  | 5              |
| Foreign Language (College Prep, Honors or AP) | 5              |
| Math (College Prep, Honors, or AP)            | 5              |
| Science (College Prep, Honors, or AP)         | 5              |
| Debate (Honors) Marketing, Electives          | <u>10</u>      |
| <b>Total</b>                                  | <b>35</b>      |

**4<sup>th</sup> Quarter Senior Year Internship (SCORE)**

**Special Programs for School Credit:** Students are afforded opportunities to earn credits outside the traditional school curriculum through the following programs; all options must be pre-approved by the Guidance Department and the Principal.

- 1. Work Study**...an academic/work option for students who wish to acquire job training/experience in an area closely related to their strongest scholastic aptitudes and/or intended career. Students must be entering their junior or senior year to qualify and should apply for consideration to the Guidance Department. Transportation must be arranged by the student. Continued participation in the program dependent upon good academic standing in other classes. Up to 10 elective credits may be earned each year. More information is available in the Guidance Office. This class may only be taken Pass/Fail.
- 2. Teaching Assistant**...available to 11<sup>th</sup> and 12<sup>th</sup> grade students who maintain a 30 credit course load and have demonstrated mastery in a subject area who wish to work cooperatively with a teacher in lesson planning, classroom activities, individual tutoring and modeling good scholarship. Up to 5 credits will be awarded per year. All Teaching Assistant classes are taken Pass/Fail.
- 3. Independent Study**...developed at the initiative of an individual student who wishes to investigate a topic independently, especially if a need cannot be met within the regular curriculum. Such a course requires consultation with a teacher who is willing to supervise the work and permission of a Guidance Counselor, the Department Chairman, and the Principal. Credit will vary and course may only be taken Pass/Fail.
- 4. College Courses/Dual Enrollment**...may be taken by any student who meets the criteria established by the college. All such courses may be included on a student's transcript with the notation that high school credit was or was not granted. Students may opt to take up to three college courses for high school credit but must have them pre-approved by the Department Chairman and the Principal in writing. The school will assume no costs for tuition for any course. Dual Enrollment with state universities may offer free tuition.
- 5. Exchange Programs**...either abroad or through U.S. private schools and organizations. This option is recommended only for those students in strong academic standing who can complete all requirements for graduation (especially 4 years of English) within the framework of the program. Detailed information regarding the proposed curriculum and credentials of the program must be provided in writing in the advance stages of planning, and approval must be in writing from the Principal before the exchange begins. See the Guidance Counselor to initiate this process.

**Course Schedule Changes:** Students are encouraged to take a rigorous course of study throughout their four years at MERHS. When a student is considering changing a course selection he/she should first confer with parents, teacher, and department chair and guidance counselor. Requests for changes will be accommodated on a space available basis that will be equitable for all students. The following guidelines should be considered:

Courses dropped during the first three weeks of class will not appear on the report card. Dropping a course requires the approval of parents, teacher, and department chair. If dropping a course would result in a student carrying fewer than 30 credits for the year, the deletion will not be allowed unless an appropriate course can be added. A student who drops a course during the

year may not complete that course in summer school. Withdrawals occurring after the deadline will be noted on the transcript as a WP or WF. Required forms are available in the Guidance Office. No student may begin a new schedule until the form is processed and approved.

## Course Level Changes

**Definitions of Levels:** Each student who graduates from MERHS is prepared to go on to higher education. On average, 90% of our graduates elect to go directly to college; others opt for an interim experience, the military or employment. Our entire curriculum, therefore, is a college preparatory program with room for individuals to work at different levels in all the core areas, according to their particular strengths and weaknesses. In the 9<sup>th</sup> and 10<sup>th</sup> grades two levels are offered: Prep and Honors. In the 11<sup>th</sup> and 12<sup>th</sup> grades sixteen Advanced Placement courses are added, so that a total of three levels are available for the last two years of high school. Levels represent the different academic standards offered in our courses; the definitions below are those standards represented by indicators teachers have found to be useful and observable. Decisions regarding placement are made on an individual basis, using teacher recommendations, grades from prior courses, placement and standardized test scores where applicable, and input from the student, parents, and the guidance counselor.

### 1. Indicators...College Prep Level

- a. **Career and Educational Goals:** It is expected that the student will be prepared for college, other postgraduate education, military service or employment.
- b. **Communication Skills:** The student is expected to exhibit well-developed writing, speaking, and listening skills. This includes proper grammar and syntax, along with recognition of his/her communication style. He/she will be able to take notes on lectures, make outlines and deliver oral reports. In foreign language, the student will work toward better listening, comprehension and speaking at a level that will enable ease at traveling or living in countries where the language is spoken.
- c. **Creativity/Originality:** The student is expected to exhibit:
  - a depth of questioning and problem solving
  - courageous imagination and willingness to experiment
  - an intuitive sensing
  - a playfulness and perseverance in the manipulation of media and materials
  - sensitivity and openness to the unexpected
  - critical self-evaluation
  - an original style
- d. **Homework:** The student should expect homework to be assigned regularly to reinforce and review. Most students will have to spend about 2-3 hours per night on assignments outside of class.
- e. **Independence:** The student may sometimes need the teacher's attention and probing questions to produce successful performance. The student should be able to follow written and oral directions with little need for the teacher's help.
- f. **Pace:** The student is expected to grasp new material, but reinforcement and review are provided as needed.
- g. **Performance:** The student is expected to attain a "C" average or better at the College Prep Level.

- h. Reading Level:** The student is expected to be at or above grade level in reading comprehension and vocabulary. He/she also exhibits some evidence of reading beyond assignment.
- i. Student Motivation:** The student is expected to aspire to do well in activities and to meet all expectations set by the teacher.
- j. Thinking Skills:** The student is expected to do various levels of thinking, including both concentrating on quick recall and the ability to apply learning material to new learning material and new situations. He/she will be required to analyze and solve complex problems.

## 2. Indicators...Honors or Advanced Placement

- a. Career and Educational Goals:** It is expected that the student is being prepared for all colleges and graduate schools.
- b. Communication Skills:** The student is expected to exhibit critical writing, speaking, and listening skills. Communication should show personal style and voice. The student is expected to outline, take notes, and deliver oral reports with clarity and accuracy. In a foreign language, he/she is expected to understand at the appropriate level when addressed, write clearly with attention to grammar and syntax, and speak fluently in the foreign language.
- c. Creativity/Originality:** The student is expected to frequently exhibit:
  - a depth of questioning and problem solving
  - courageous imagination and willingness to experiment
  - an intuitive sensing
  - a playfulness and perseverance in the manipulation of media and materials
  - sensitivity and openness to the unexpected
  - critical self-evaluation
  - an original style
- d. Homework:** The student is expected to do homework that is frequent and demanding. Homework may deal with new material. Most students would have to spend about 2-3 hours per night on assignments outside of class.
- e. Independence:** The student is expected not to need a great deal of support from the teacher and to follow directions from any source with common sense, judgment, and ability to modify. The student is expected to pursue topics beyond the assigned material.
- f. Pace:** The student is expected to grasp new material rapidly. Thus, courses are accelerated and minimal review is offered.
- g. Performance:** The student is expected to attain a “B” average or better at the Advanced level.
- h. Reading Level:** The student is expected to be significantly above grade level in reading comprehension and vocabulary. The student is expected to exhibit evidence of reading beyond the assignment.
- i. Student Motivation:** The student is expected to be self-motivated. The student should enjoy the learning process. The student should work to excel in all activities.
- j. Thinking Skills:** The student is expected to exhibit all levels of thinking. The student is expected to be able to solve problems and work with other areas of abstraction with minimal help and review. Areas of abstraction include: analysis, synthesis, and evaluation.

- 3. Advanced Placement Program:** Many students are capable of completing college-level studies during secondary school. The Advanced Placement (AP) Program, sponsored by the College Board, provides the means for secondary schools and colleges to provide such educational experiences. It is the belief of the school’s administration that any students deemed capable of doing college-level work, while in high school, should be

encouraged to enroll in Advanced Placement courses as part of their four-year academic program. Enrolling in an Advanced Placement course represents a commitment to take the Advanced Placement examination in May, so that one's achievement can be measured against students from across the countries who have taken the same course. The school administration requires that any student enrolled in an AP course must take the AP examination. It is expected that the student or his or her family will bear the cost of the examination; however, financial aid is available for any student who meets the College Board financial assistance criteria.

Students who complete an Advanced Placement course, including taking the examination, receive certain benefits for their efforts. They have the opportunity to attempt college-level work without the cost of college-level tuition and their high school transcripts reflect their enrollment in AP courses. To college admission officers, this is a sign of a strong student with serious intent. College credit may be awarded to students in accordance with individual college policies.

Students who are accepted into but do not complete an AP course, including the examination, are not eligible for the benefits mentioned above. Any student who does not complete an AP course will have the designation "AP" removed from his or her transcript. Colleges and universities routinely ask the Guidance Department to notify them of any change in status when final grades are sent in June and the change from AP to Honors would be noted. **STUDENTS SEEKING TO ENROLL IN MORE THAN 3 AP COURSES MUST COMPLETE THE AP WAIVER FORM.**

**Placement Level Review Form:** Students who are interested in enrolling in a course level not recommended by their teacher should arrange a meeting with that teacher, counselor and department chair to review student's achievement. There will be no parental override when there are clearly defined departmental criteria and /or stated course prerequisites. Any appeals regarding the decision reached should be directed to the Principal.

**Review forms are available in Guidance and on the Guidance web site.**

**Electives and GPA:** MERHS encourages students to pursue their passions and interest through elective courses. Some students may have a concern that elective grades may negatively impact their GPA (grade point average). At the end of the junior year, students may choose to exclude their CP level noncore elective grades counted into the calculation of their GPA's. All grades for all electives will appear on a student's transcript. Electives listed as Honors, such as Debate, must be included in a student's GPA.

**SCORE – Senior Choice of Related Experience:** SCORE is a five-week internship program that releases seniors from regular classes to carry out hands-on learning projects in the career fields of their choice. It is a bridge between the familiar world of school and peer group and the largely unknown world of work and adulthood. Through SCORE, seniors have an opportunity to learn by doing, to assess possible careers, acquire job skills, clarify what further training they need, and finally put to use what they have learned in their years of schooling. Students must have their proposed projects approved by a review board of teachers and administrators.

**COMMUNITY SERVICE GRADUATION REQUIREMENT:**

Manchester Essex Regional High School believes in educating the whole person. Each student of MERHS is encouraged to characterize respect, responsibility; integrity and compassion with

his/her own vision and style. It is through quality citizenship and service for others that students will make a positive contribution to their community and the world.

Community Service is service without pay to a non-profit agency/organization, an individual or a group in need. Starting with the summer before freshmen year, students will begin to earn a minimum of 40 documented hours of community service. Some examples of community service programs include working with animal shelters, local hospitals, nursing homes, hospice services, museums, schools, Scouts, peer tutoring, Green Team, Mission trips, libraries and local community organizations.

Community Service Information and forms are available in Guidance or on the Guidance Web site. Guidance will email students and parents throughout the school year as community service opportunities become available.

## ART

Though art is not currently a requirement for graduation, all MERHS students are encouraged to take advantage of our many excellent art offerings at some point in their high school years as part of a well-rounded education. Motivation and work ethic are valued equally with talent, especially in the foundation courses. Art Foundations is a prerequisite for most other courses. Completion of this one semester class allows students to choose from Painting, Drawing, or Ceramics. The prerequisite for Portfolio is the successful completion of the Painting and Drawing classes. The Advanced Placement course must follow a year of Portfolio. Many of our art students have taken additional courses at the college level and have won numerous regional and state awards.

### COURSE OFFERINGS

#### ART FOUNDATIONS

**Grades 10-12**

##### **711 Semester - College Prep**

**2.5 Credits**

Art Foundations is designed to provide an overview and introduction to Visual Arts through studying a variety of art tools and materials that may include: pencil, watercolor, printmaking, sculpture, acrylics, charcoal, oil pastel, paper collage. With an emphasis on studio production, this course is designed to develop higher-level thinking by means of: art criticism, art history and aesthetics. Exploration and risk taking are valued. Students learn by doing, analyzing, revising and evaluation.

*Please note: The MERMS Class of 2016 had Art Foundations as part of their 8<sup>th</sup> grade art curriculum, and cannot take it again in high school.*

*This course is a prerequisite for Drawing, Painting, and Portfolio*

#### DRAWING

**Grades 9-12**

##### **722 Semester – College Prep**

**2.5 Credits**

This course will teach students to develop their observation and accuracy skills as they progress through a series of assignments such as still life, perspective drawings, figure drawing and design. They will use a range of drawing materials such as: graphite pencil, charcoal, pastel (oil and chalk), colored pencil, glue, pen and ink and a variety of experimental materials. Value, illusion of depth, abstraction, proportion, positive-negative space, surface manipulation and the relation of parts to a whole will be addressed. Students will continue to develop compositional understanding by applying the elements and principles of design to their sketches and drawings. Artists will be studied for students to discover how relevant they are in art history and to the individual student.

*Prerequisite: Art Foundations or member of the MERMS Class of 2016*

#### PAINTING

**Grade 10-12**

##### **721 Semester – College Prep**

**2.5 Credits**

This course is designed to expand and sharpen students' skills in painting through a variety of projects and mediums. Students will learn more about painting techniques, vocabulary, color mixing and color theory. Painting mediums will include: acrylics, watercolor and ink. Students will continue to develop skills in discussion and analysis

of artwork while studying the history of painting. There will be informal exercises, demonstrations, slide presentations and discussions related to specific objectives.

*Prerequisite: Art Foundations/MERMS Class of 2016, and Drawing*

## **PORTFOLIO I**

**Grades 10 -12**

### **740 Full Year –Honors**

**5 Credits**

Portfolio I focuses on the production of art with more extensive exploration of media and techniques than in previous art classes. A variety of studio experiences may include: drawing, painting, printmaking, sculpture, mixed media and installation art. Students work towards developing a well-rounded portfolio that fulfills a substantial portion of the AP Studio Art requirements. The study of aesthetics, art criticism and art history will enrich each student’s work. Critiques and original thinking are essential parts of this course.

*Prerequisite: Art Foundations/MERMS Class of 2016, Drawing, Painting.*

## **PORTFOLIO II**

**Grades 11-12**

### **747 Full Year –Honors**

**5 Credits**

This is a continuation of Portfolio I. Projects will reflect greater depth and breadth. Students may choose a course of study for some projects to be approved by the teacher. Other projects will be assigned and cover a wide use of mediums.

*Prerequisites: Portfolio I, Teacher Recommendation.*

## **ADVANCED PLACEMENT STUDIO ART**

### **2D DESIGN PORTFOLIO**

**Grades 11-12**

#### **741 Full Year - Advanced Placement**

**5 Credits**

This course is a college level course in the visual arts, designed for students who are seriously committed to studying art. The curriculum will include original, challenging assignments where creative thinking and problem solving is stressed. Emphasis is placed on purposeful decision-making about how to use the elements and principles of art in an integrative way. The work will recognize the influence of art history and its role in the development of visual ideas. For this portfolio, students are asked to demonstrate proficiency in 2D design using a variety of art forms. They could include, but are not limited to: painting, printmaking, collage, drawing, digital imaging, photography, fabric design, etc. Imagery will range from representational to non-objective art forms. Personal goals, career choices, college choices and requirements are counseled in this course.

Students will be required to work outside the classroom during the summer before this course and during the school year, as well as in class. Students who enroll in AP Studio Art are expected to take the AP examination in May to receive AP credit. Students who score at a prescribed level on this examination may receive advanced placement, college credit or both.

*Prerequisite: Portfolio I teacher recommendation, required summer work and a parental consent form.*

## **GRAPHIC DESIGN**

**Grade 9 - 12**

### **733 Semester – College Prep**

**2.5 Credits**

This course will explore graphic and other fields of design. Students will use Adobe Illustrator and Photoshop to create two dimensional work and Google Sketchup for three dimensional modeling. The four main units of this course are Design Basics, Typography, Grids/Layout, and Product/3D design. Some examples of projects are logo design, font design, corporate branding, magazine layouts, tee shirt graphics, and architectural design.

*Prerequisites: None. Art Foundations/MERMS Class of 2016 recommended but not required.*

### **DIGITAL PHOTOGRAPHY I**

**Grades 9-12**

#### **742A Semester – College Prep**

**2.5 Credits**

This basic digital photography class is a one-semester course designed for students with little or no photography experience. Students will learn about visual composition, history of photography, and trends in current photography. Fine art and commercial photography will be covered. Students will be encouraged to develop their own style as the course progresses. Most projects will be outside assignments. This class is taught using digital cameras and Adobe Photoshop.

*Prerequisites: None*

### **DIGITAL PHOTOGRAPHY II**

**Grades 9-12**

#### **742B Semester – College Prep**

**2.5 Credits**

This second level digital photography class is a one-semester course for students who have already taken Photography I. The emphasis will be on strengthening conceptual ideas, technical shooting skills, and digital manipulation of images. Students will be given several assignments at the beginning of the semester, but create their own proposal for producing a body of work for the remaining time. Students will develop their own style and vision. Most projects will be outside assignments. This class is taught using digital cameras and Adobe Photoshop.

*Prerequisites: C or above in Digital Photography I*

### **DIGITAL PHOTOGRAPHY III**

**Grades 9-12**

#### **742E Semester – College Prep**

**2.5 Credits**

This advanced digital photography class is a one semester course for students who have taken Photography I and Photography II. This course combines guided assignments with a level of independent work. Students will be given several assignments at the beginning of the semester, but create their own proposal for producing a body of work for the remaining time. Students are required to bring in photographs each week to show progress in their project. Students also continue building Photoshop skills, as well as take leadership positions by helping Photo I and II students. Participating in and leading critiques is also a component of the course. Finally, students will reflect upon the process of professional photographers by responding to primary source pod casts, videos, and documentaries.

*Prerequisites: C+ or above in Digital Photography II*

### **PHOTOGRAPHY PORTFOLIO**

**Grades 10-12**

#### **Semester – Honors**

**2.5 Credits**

This Honors level advanced digital photography class is a semester course for students who have taken Photo I, II, and III and is geared towards students who are highly motivated and can work independently to produce photographs that are technically and aesthetically of a superior level. Students create their own proposal for producing a theme based body of work that they work on for at least a month at a time. Individual growth is stressed during this process with photographs due each week to show progress in their project. Students work towards developing a well-rounded portfolio that is suitable for applying to college or submitting to the Boston Globe Scholastic Art Awards. Students are also required to set up their own Wordpress website for their identity as an artistic and/or commercial photographer. Finally, students will reflect upon the process of professional photographers by responding to primary source pod casts, videos, and documentaries.

*Prerequisites: Digital Photography III, Teacher Recommendation*

### **VISUAL JOURNALISM**

**Grades 10-12**

#### **162 Semester – Honors**

**2.5 Credits**

This Honors level art class explores issues in visual journalism while it produces the school's online magazine, MEMO ([memo.mersd.org](http://memo.mersd.org)). Students will create photo essays with captions and short video news clips to be published on the site. Covering events that happen in all four district schools, the students will learn about the process and ethics of documentary photo/videography. Principles of photography and video shooting and editing will be addressed. Skills in *Photoshop*, *Windows Movie Maker*, *Premiere Pro*, and *WordPress* will be covered. Participating in critiques and the history of documentary film are also components of the course. Students should note that this course will include shooting done outside of class time.

*Prerequisites: Digital Photography I is STRONGLY suggested as a prerequisite.*

### **CERAMICS I**

**Grade 9 - 12**

#### **743 Semester – College Prep**

**2.5 Credits**

This course will introduce students to the fundamentals of hand building with clay. Using stoneware and a high fire kiln, students will experiment with various forms and concepts. Students will learn about a variety of glaze types in addition to the safe use of all tools and equipment. A journal and critiques of all work are an on-going component throughout the semester. This course is intended to stimulate critical thinking on a range of topics including: ceramic history, commercial context and aesthetics.

*Prerequisite: Art Foundations/MERMS Class of 2016 recommended.*

### **CERAMICS II**

**Grades 10 – 12**

#### **744 Semester – College Prep**

**2.5 Credits**

This course is primarily an introduction to wheel throwing. Students will progress through a variety of forms as their skill level develops. Additionally, students will incorporate hand-building techniques on a variety of assignments. With a focus on both functional and non-functional work, students will use a variety of glaze techniques and types. A journal and critiques of all work are an important component throughout the semester. This course is intended to stimulate critical thinking on a range of topics including: ceramic history, commercial context and aesthetics.

*Prerequisites: Ceramics I and C+ or above in Ceramics I.*

**CERAMICS III** **Grades 11-12**  
**745 Semester – College Prep** **2.5 Credits**

This course emphasizes continued mastery with wheel throwing and hand building. Students at this level will work to develop polished skills in making a wide variety of ceramic forms and glaze applications. This course is geared for serious students that want to advance and practice their already acquired skills. A journal and critiques of all work are an important component throughout the semester. This course is intended to stimulate critical thinking on a range of topics including: ceramic history, commercial context and aesthetics.

*Prerequisites: Ceramics II and C+ or above in Ceramics I and II.*

**CERAMICS PORTFOLIO** **Grades 10-12**  
**Semester – Honors** **2.5 credits**

This honors level advanced ceramics course is a one semester course for students who have taken Ceramics I, II, and III. This course is geared towards students who are highly motivated and can work independently to produce both functional and non functional 3 dimensional forms that are technically and aesthetically of a superior level. Students in this course will work directly with the instructor to develop groupings of work that demonstrate personal growth through direct work with the clay medium in addition to studying master artists both past and present. Students in this course will be required to produce work for major exhibits and all seniors producing a portfolio for the Boston Globe Scholastic Art Awards.

*Prerequisites: C+ or above in Ceramics III and teacher recommendation*

**PRINTMAKING** **Grades 9-12**  
**752 Semester- College Prep** **2.5 Credits**

This course utilizes the elements and principles of design as they relate to visual communications in the printmaking discipline. The course will cover the following methods of working: relief, woodcut, collagraph, monoprint, monotype, image transfers, drypoint, stencil and more. Both traditional methods as well as use of Adobe Photoshop will allow students to develop editions of work with a strong experimental emphasis and critical reflection. Subject matter for this course will be taken from class discussions on current events, popular culture and the roles of graphic design and illustration in contemporary art.

*Prerequisite: Art Foundations/MERMS Class of 2016 recommended*

**PRINTMAKING II** **Grades 9-12**  
**752A Semester-College Prep** **2.5 Credits**

As a follow-up to Printmaking I, this course offers serious students advanced opportunities to learn and develop upon the processes covered previously. Students will review and elaborate upon the following methods: relief, woodcut, collagraph, monoprint, monotype, image transfers, drypoint and stencil. Continued emphasis will be on dynamic personal imagery and themes from popular culture in addition to advancing technical expertise of the printmaking discipline at all levels.

*Prerequisite: Printmaking I*

**PRINTMAKING III**  
**Semester-College Prep**

**Grades 10-12**  
**2.5 credits**

As a follow-up course to Printmaking II, this course further explores printmaking as a means of developing images through a variety of methods covered in the previous two printmaking courses. Students will work with the instructor to strengthen both their technical and aesthetic skills. Students in this course will be required to develop a body of work that illustrates a growing knowledge of the medium and its experimental possibilities. All students will be required to submit high quality work for exhibitions.

*Prerequisites: C+ or above in Printmaking II*

**PRINTMAKING PORTFOLIO**  
**Semester-Honors**

**Grades 10-12**  
**2.5 credits**

This advanced level honors course is geared towards the student that is intellectually curious, highly motivated and able to work independently. Students working at this level should be both serious and willing to take risks to continue to push the boundaries of their work both technically and aesthetically. Students will develop a body of work based upon a series of assignments that will be critiqued throughout their development. Students in this course will be expected to develop high quality work that can be considered for a variety of exhibitions. All seniors in this course will submit portfolios for the Boston Globe Awards.

*Prerequisites: C+ or above in Printmaking III and teacher recommendation*

**MIXED MEDIA**  
**Semester-College Prep**

**Grades 9-12**  
**2.5 credits**

Students will learn the fundamentals of combining collage, painting and printmaking on canvas and paper and explore color, texture, design and composition. Both traditional and non-traditional approaches to art are taught by using media that may also include: wood, plaster; fabric, wire, mosaic, ordinary objects, found objects, among other materials. This course is designed to develop skills of two- dimensional and three dimensional problem solving, allowing students to work with a variety of media.

*Prerequisite: Art Foundations/MERMS Class of 2016 recommended*

**MULTICULTURAL ART**  
**SemesterCollege Prep**

**Grades 9-12**  
**2.5 credits**

Students will explore the relationship between a given culture and how that culture expresses itself through its art. Students will create their own interpretation of cultural themes and incorporate their own life experiences and personal preferences into the art. Sculpture, painting and a variety of crafts will be explored.

*Prerequisite: Art Foundations/MERMS Class of 2016 recommended*

## **BUSINESS EDUCATION**

Using a “hands-on” approach, students will develop the skills needed to put multiple business theories into practice within financial, entrepreneurial, and economic/marketing-based disciplines. Through analysis; interpretation; critical thinking; problem solving; communication; collaboration; creativity and innovation students will learn to connect concepts with current events and in the process acquire the 21<sup>st</sup> Century skills needed in today’s dynamic business environments.

Along with core content, these 21<sup>st</sup> Century skills are essential to ensure that our students are able to compete in the global economy

## **COURSE OFFERINGS**

### **MARKETING ESSENTIALS**

**632 Full Year – College Prep**

**Grades 10 –11**

**5 Credits**

Marketing Essentials introduces various marketing concepts on the macro and micro level, investigates the role of marketing in the students’ life and the larger society, and examines the factors that influence marketing decision making. Together the class will determine the role of marketing in the functioning of the global economy, individual companies, and our daily lives. Marketing is more than buying and selling; it encompasses nearly every aspect of daily life from the way we dress to the food we eat. Through problem solving and critical thinking students will learn to make decisions that guarantee success – no matter what the goal.

Students will become active members in DECA, an international organization of high school marketing students that focuses on developing leadership skills, professional attitudes, business competency, citizen characteristics and social growth. Every student competes in the DECA District Competition in the second quarter.

*Prerequisite: None.*

### **BUSINESS MANAGEMENT**

**642 Full Year — College Prep**

**Grade 12**

**5 Credits**

Business Management offers students an opportunity to build upon their experiences in Marketing I and move toward understanding management in real world applications. It will give students the opportunity to study the more complex problems encompassing challenges business are facing in today’s dynamic environments. The course focuses on contemporary management; management environments; foundational skills, planning skills, organizational skills, leadership skills, and quality control. Students will be introduced to entrepreneurship as an economic resource for rebuilding our economy. Students will apply their learning in a hands-on approach. The DECA experience will continue as students apply the concepts and skills learned in this course to hone competition skills and leverage understanding and knowledge for improved performance.

*Prerequisite: Marketing I.*

**DECA INDEPENDENT STUDY**  
**\*\*\*\* Semester/Full Year — College Prep**

**Grade 12**  
**2.5 or 5 Credits**

Senior year will have the opportunity to engage in DECA Written Competition in several categories including marketing research, entrepreneurship, community service, professional selling, and more. Participation in these DECA categories involves writing a 30 page research project and presenting at DECA District Competitions. The independent study could end after District Competition as a half year course or continue on to State Competition in March and International Competition in April transforming the experience in to a full year course.

*Prerequisite: Marketing Essentials and or Management.*



DECA is an international organization of high school marketing students that develops leadership, civic consciousness, social intelligence, and vocational understanding. It is the only student organization operating in all 50 states, four U.S Territories and Canada. DECA gives students the opportunity to collaborate and compete with peers from across the country in marketing areas such as advertising, economics and financial management. Competitions take place during the school year at district, state and international conferences.

The DECA program is offered to students at Manchester Essex Regional High School through three courses: Marketing I (10<sup>th</sup> or 11<sup>th</sup> grade), Marketing Management (Marketing I prerequisite), and DECA Independent Study (Marketing 1 prerequisite). All students must be enrolled in one of the above courses to participate in the DECA program.

DECA competition consists of written exams, spontaneous role-play situations, and project presentations. A student must be well rounded to achieve in DECA. Academic understanding provides the foundation for written competition, but students must also develop leadership ability, organizational skills, self-confidence and motivation to succeed in the role-play situations. Judges are community business owners and professionals. The background students develop in the DECA program enhances their career opportunities and choices while preparing them to be citizens of a marketing driven society.

Within Massachusetts, Manchester Essex has been a top qualifier for the International Career Development Conference (ICDC) since 1988. The team has competed in Denver, San Jose, Anaheim, Orlando, Detroit, St. Louis, Salt Lake City, Atlanta, Louisville and New Orleans. Ten Manchester Essex students have been recognized as International Champions, receiving first, second or third place at the annual ICDC. Through their accomplishments, outstanding students receive scholarships, cash awards and other forms of recognition.

## COMPUTER SCIENCE/TECHNOLOGY COURSE OFFERINGS

**INTRODUCTION TO COMPUTER PROGRAMMING**                      **Grades 10-12**  
**461 Semester – College Prep**    **2.5 Credits**

Computer programming in Java will be taught at an introductory level. Topics covered include variables and constants, input/output, data types, decision structures and loops. Java is an object-oriented language, and the course will emphasize this paradigm. Problem solving and good programming practices are stressed throughout the course. *Prerequisite: Algebra I.*

**AP COMPUTER SCIENCE – A**    **Grades 10-12**  
**460B Full Year – Advanced Placement**    **5 Credits**

This course continues the study of computer programming at an Advanced Placement level, following the College Board’s Advanced Placement Computer Science curriculum, with particular emphasis on classes, the foundation of object-oriented programming. After a review of the basic concepts covered in Introduction to Computer Programming, the course covers one and two dimensional arrays, using and writing classes, public and private variables, sorting, searching, recursion, and other AP Computer Science “A” exam topics.  
*Prerequisite: Introduction to Computer Programming and/or teacher recommendation.*

**DEBATE & SPEECH PROGRAM  
COURSE OFFERINGS  
2012 - 2013**



**National Forensic League  
Chapter #3020**

## **Statement of Purpose**

Interscholastic debate is an interdisciplinary program which meets both the academic and the social goals of the MERHS mission statement. Within the highly structured and rigorous events of the activity lies a student-centered curriculum designed to assist each student in developing an authentic and personal voice.

Academically, debate measures success not by what is taught but by what is learned. Debate is committed to teaching the core academic skills of reading, writing, argumentation, and critical thinking, not prescribed content to be memorized. The role of the teaching staff is to coach each student to full potential using outside judges to determine the extent to which we have succeeded.

Intellectually, the program teaches students how to think, not what to think. Students learn to discover that multiple beliefs can be argued effectively, and that disagreement is a process that can lead to accord and understanding. They learn new ways to resolve conflicts using the power of their minds.

Socially, students are given the opportunity to travel and compete with some of the best high school students in the nation. By exposing students to these experiences, the program attempts to develop the knowledge, self-confidence, and independence to meet the challenges of college and life beyond.

Students learn leadership through judging and coaching their peers, through hosting and running large tournaments, and through representing their towns and school in tournaments, social forums, and in public presentations. Debaters are self-confident, independent, honest, responsible, and intellectually engaged; as a result, they are ideal candidates for admission to the most competitive colleges and universities.

## **Tradition of Excellence**

Founded in 1971, the team gained national recognition for its debate and speech program by winning both the National Forensic League Policy debate championship and the National Tournament of Champions in 1987. In 1988, Manchester Essex's won the nationally noted Montgomery Bell Academy Round Robin in Lincoln-Douglas debate.

In 1992 Manchester Essex represented the United States in the World Schools Debating Championships in London. In 2000 the team won the international parliamentary debate championships in Athens, Greece. In 2002 Manchester Essex won the Harvard University

national invitational tournament in Lincoln-Douglas debate. In 2005 long time coach Timothy Averill was named NFL National Debate Coach of the Year and was inducted into the Hall of Fame.

The 2005-2006 season resulted in championships at the Yale Invitational, The Glenbrooks, and the third national championship in the team's history with a victory in Public Forum debate at the National Tournament of Champions. In 2006, MERHS also finished sixth in the nation at the National Forensic League Championships in Public Forum Debate.

The team has consistently qualified to represent New England at the three national post-season tournaments (TOC, NCFL, and NFL), including qualifying seven students in both 2011 and 2012. The current teaching and coaching staff include four social studies teachers, one of whom is an NFL Diamond Key Coach.

**DEBATE**  
**151A FULL YEAR – HONORS**

**GRADES 9-12**  
**5 CREDITS**

Interscholastic debate and speech is taught using several different events: Congressional Debate, Extemporaneous Speaking, Lincoln-Douglas Debate, Public Forum Debate, and Original Oratory. These events form the core curriculum of this honors level class. Once enrolled in the class, students will be divided into four separate sections, with each section taught by a different social studies teacher.

The overall curriculum is divided into two strands. The first strand – building general argumentation and communication skills – includes studying techniques of debating, using research technologies, and writing persuasive essays/cases of considerable detail. The second strand builds understanding of specific content for each new national debate topic.

For 9<sup>th</sup> graders the course begins with an intensive study of Lincoln-Douglas debate. This will include an introduction to the current Lincoln-Douglas topic, practice debating, discussion of debate rounds, and an introduction to philosophy and ethics. After the first quarter 9<sup>th</sup> graders will have the opportunity to explore Congressional Debate, Extemporaneous Speaking, Public Forum Debate, and Original Oratory. Exposure to these events will allow students to explore a variety of public speaking formats.

Experienced debaters will have the opportunity to join an advanced section of Congressional Debate, Extemporaneous Speaking, Lincoln-Douglas Debate, or Public Forum Debate. Besides focusing on topic analysis and advanced argumentation, upperclassmen will primarily focus on developing the independence, perseverance, and critical thinking skills necessary for competitive debate. Besides preparing for the specific tournament topics, each section will also explore topics relating to the political, social, and economic forces impacting the world today.

All students and parents must recognize that this is a co-curricular course that requires a commitment of several weekends throughout the year. In addition to classroom assignments, all students participate in at least 10 of the 30-plus interscholastic tournaments that the team attends. *Prerequisite: None*

## SOCIAL STUDIES DEPARTMENT

The goals of the Social Studies Department are for students to 1) acquire critical thinking, reading, writing and speaking skills so that they can express themselves and pursue life goals, 2) understand local, national and world history so they can make decisions about their individual and collective futures, 3) understand local, national and world governments so they can function as active and informed citizens, and 4) understand and respect differences so they can effectively function in an increasingly diverse society. All Manchester Essex Regional High School students are required to take and pass a minimum of three years of social studies courses during the four-year high school program. The minimum includes one full year of United States History, as required by state law. Students planning to attend a four-year college are strongly encouraged to take four years of social studies. Courses in grades 9 and 10 will be offered at the College Prep and Honors levels, while most courses in grades 11 and 12 will be offered at the College Prep, Honors and Advanced Placement levels.

### COURSE OFFERINGS

#### **WORLD HISTORY II**

##### **211 Full Year –Honors**

**Grade 9**

**5 Credits**

The freshman program is the first year of a three-year sequence in social studies. The course presents a background in world history from 1700-Present. Topics studied include the Enlightenment, the French Revolution, nationalism, industrialization, imperialism, the First World War, communism and fascism, the Second World War, global independence movements, the Cold War and current global issues. Honors level courses are intensified so as to challenge the higher skilled and matured student. *Prerequisite: placement exam and teacher recommendation.*

#### **WORLD HISTORY II**

##### **212 Full Year – College Prep**

**Grade 9**

**5 Credits**

The freshman program is the first year of a three-year sequence in social studies. The course presents a background in world history from 1700-Present. Topics studied include the Enlightenment, the French Revolution, nationalism, industrialization, imperialism, the First World War, communism and fascism, the Second World War, global independence movements, the Cold War and current global issues. *Prerequisite: None*

#### **UNITED STATES HISTORY I**

##### **221 Full Year –Honors**

**Grade 10**

**5 Credits**

The sophomore program is the second year of the three-year sequence in social studies and the first year of study of United States history. This course will present an in-depth study of United States history and government from 1750-1900. Topics studied include Native American culture, colonial America, the War of Independence, the Constitution and Bill of Rights, territorial expansion, Slavery, cultural and economic expansion, the American Civil War, Reconstruction,

industrialization and immigration. Honors level courses are intensified so as to challenge the higher skilled and matured student. *Prerequisite: A final grade of “B-” or better in World History II.*

**UNITED STATES HISTORY I**  
**222 Full Year – College Prep**

**Grade 10**  
**5 Credits**

The sophomore program is the second year of the three-year sequence in social studies and the first year of study of United States history. This course will present an in-depth study of United States history and government from 1750-1900. Topics studied include Native American culture, colonial America, the War of Independence, the Constitution and Bill of Rights, territorial expansion, Slavery, cultural and economic expansion, the American Civil War, Reconstruction, industrialization and immigration. *Prerequisite: Successful completion of World History II.*

**AP UNITED STATES HISTORY II**  
**230 Full Year – Advanced Placement**

**Grade 11**  
**5 Credits**

The junior program is the third year of the three-year sequence in social studies and the second year of study of United States history. Since the Advanced Placement exam spans all of American history, the course begins with a brief review of the content covered in the previous year. However, a majority of the course is an in-depth study of United States history and government from 1900 to the present. Topics studied include the Progressive Era, the First World War, the Great Depression, the Second World War, the Cold War, the Civil Rights Movement, and modern America. The course is taught at the college level and provides preparation for the national United States History exam, a required undertaking for all who enroll. *Prerequisite: A final grade of “B-” or better in United States History I Honors.*

**UNITED STATES HISTORY II**  
**231 Full Year –Honors**

**Grade 11**  
**5 Credits**

This junior program is the third year of the three-year sequence in social studies and the second year of study of United States history. This course will present an in-depth study of United States history and government from 1900-Present. Topics studied include the Progressive Era, the First World War, the Great Depression, the Second World War, the Cold War, the Civil Rights Movement, and modern America. Honors level courses are intensified so as to challenge the higher skilled and matured student. Preparation for the Advanced Placement examination is not a focus of this course. *Prerequisite: A final grade of “B-” or better in United States History I.*

**UNITED STATES HISTORY II**  
**232 Full Year – College Prep**

**Grade 11**  
**5 Credits**

The junior program is the third year of the three-year sequence in social studies and the second year of study of United States history. This course will present an in-depth study of United States history and government from 1900-Present. Topics studied include the Progressive Era, the First World War, the Great Depression, the Second World War, the Cold War, the Civil Rights Movement, and modern America. *Prerequisite: Successful completion of United States History I.*

**AP PSYCHOLOGY**  
**240 Full Year – Advanced Placement**

**Grade 12**  
**5 Credits**

This elective course provides an introduction to the basic principles of human behavior and an opportunity to better understand each other and ourselves. Topics studied include the historical perspective of psychology, personality theories, the brain, stress and adjustment, consciousness, learning and memory, cognition and intelligence, development, motivation, abnormal behavior

and treatment. Outside readings, journals, research projects, presentations/seminars, essays and reports are required of all students. The course is taught at the college level and provides preparation for the national Psychology exam, a required undertaking for all who enroll. *Prerequisite: A final grade of "B-" or better in United States History II Honors.*

## **PSYCHOLOGY**

**Grade 12**

### **240H Full Year – Honors**

**5 Credits**

This elective course provides an introduction to the basic principles of human behavior and an opportunity to better understand each other and ourselves. Topics studied include the historical perspective of psychology, personality theories, the brain, stress and adjustment, consciousness, learning and memory, cognition and intelligence, development, motivation, abnormal behavior and treatment. Outside readings, journals, research projects, presentations/seminars, essays and reports are required of all students. The Honors level is intensified so as to challenge the higher skilled and matured student. *Prerequisite: A final grade of "B-" or better in United States History II Honors or the successful completion of Advanced Placement United States History.*

## **UNITED STATES GOVERNMENT & POLITICS**

**Grade 11-12**

### **241 Full Year – Honors**

**5 Credits**

This elective course provides students with an in-depth study of American government and politics. Students will study government structures and procedures and the patterns of political processes and behavior. Students will interpret U.S. government and politics by examining the Constitutional underpinnings of the federal government, institutions of the national government, public policy, political beliefs and behavior, civil rights and liberties, political grouping, and the media. The Honors level is intensified so as to challenge the higher skilled and matured student. *Prerequisite: A final grade of "B-" or better in United States History II.*

## **UNITED STATES GOVERNMENT & POLITICS**

**Grade 10-12**

### **242 Full Year – College Prep**

**5 Credits**

This elective course provides students with an in-depth study of American government and politics. Students will study government structures and procedures and the patterns of political processes and behavior. Students will interpret U.S. government and politics by examining the Constitutional underpinnings of the federal government, institutions of the national government, public policy, political beliefs and behavior, civil rights and liberties, political grouping, and the media. *Prerequisite: None.*

## **UNITED STATES GOVERNMENT & POLITICS**

**Grade 11-12**

### **250 Full Year – Advanced Placement**

**5 Credits**

This Advanced Placement course provides students with an in-depth study of American government and politics. Students will study government structures and procedures and the patterns of political processes and behavior. Students will interpret U.S. government and politics by examining the Constitutional underpinnings of the federal government, institutions of the national government, public policy, political beliefs and behavior, civil rights and liberties, political grouping, and the media. The course is taught on the college level and provides preparation for the national AP U.S. Government and Politics exam, a required undertaking for all who enroll. *Prerequisite: A final grade of "B-" or better in United States History Honors.*

## **COMPARATIVE GOVERNMENT & POLITICS**

**Grade 11-12**

### **245 Full Year – Advanced Placement**

**5 Credits**

This Advanced Placement course introduces students to fundamental concepts used by political scientists to study the processes and outcomes of politics in a variety of country settings. In addition to covering the major concepts that are used to organize and interpret what we know about political phenomena and relationships, the course will cover specific countries and their governments. China, Great Britain, Iran, Mexico, Nigeria, and Russia form the core of the AP Comparative Government and Politics course. By using these six core countries, the course will move the discussion of concepts from abstract definition to concrete example, noting that not all concepts will be equally useful in all country settings. The course is taught on the college level and provides preparation for the national AP Comparative Government and Politics exam, a required undertaking for all who enroll. *Prerequisite: A final grade of "B-" or better in United States History Honors.*

**CURRENT GLOBAL ISSUES**  
**251 Full Year - Honors**

**Grades 11-12**  
**5 Credits**

This elective course will examine several current issues of global importance. A major focus of the course is to understand and independently evaluate information from a variety of sources. This will be done through reading, writing and discussing current events and contemporary media pieces on topics relating to the political, social and economic forces impacting the world today. Topics studied may include economics, politics, globalization, climate change, human rights, cultural imperialism, American intervention, terrorism, and current global conflicts. Attention will be given to the historical foundations of each topic as well. The Honors level is intensified so as to challenge the higher skilled and matured student. *Prerequisite: A final grade of "B-" or better in United States History.*

**CURRENT GLOBAL ISSUES**  
**252 Full Year - College Prep**

**Grades 11-12**  
**5 Credits**

This elective course will examine several current issues of global importance. A major focus of the course is to understand and independently evaluate information from a variety of sources. This will be done through reading, writing and discussing current events and contemporary media pieces on topics relating to the political, social and economic forces impacting the world today. Topics studied may include economics, politics, globalization, climate change, human rights, cultural imperialism, American intervention, terrorism, and current global conflicts. Attention will be given to the historical foundations of each topic as well. *Prerequisite: None.*

\*Note: Course availability for junior and senior electives is dependent on enrollment.

## ENGLISH

Manchester Essex Regional High School requires four years of English. Journalism does not satisfy this requirement. All English courses in grades 9-12 provide strong emphasis upon the important skills of composition, vocabulary, spelling, critical reading and oral presentation.

The definition of Levels is implicit in the course descriptions below but is specifically addressed in the Student Handbook. Students in grades 9-11 who have been identified as lacking proficiency on the MCAS examinations may be recommended for special classes to remediate their weaknesses.

|   |
|---|
| <b>English 9 – College Preparatory</b>  |
| The Prep level program provides the same core of college preparation in English studies as the Honors. Extra attention is given to basic grammar review and writing skills but at a less accelerated pace and with greater attention given in class to individual needs. <i>Vocabulary Workshop: Level D</i> is the vocabulary text used. The literature component of the 9 <sup>th</sup> grade program involves a genre-based study of works from around the world.  |
| <b>English 9 – Honors</b>   |
| The primary goal of Honors English 9 is to develop students’ abilities as independent readers and writers. Writing skills are established through a first-quarter "Boot Camp." This nine-week intensive program will focus on all elements of formal writing, including grammar, punctuation, mechanics, the five-paragraph, expository essay and instruction on the use of in-text, parenthetical citations, which include the use of quotations, paraphrasing, and the construction of a Works Cited list. Vocabulary development is enhanced and expanded through regularly scheduled quizzes and tests based on the text <i>Vocabulary Workshop: Level D</i> . The literature component of the 9 <sup>th</sup> grade program involves a genre-based study of works from around the world. |

### Expectations

| <b>College Preparatory</b>  | <b>Honors</b>  |
|---|--|
| Through a decreasing level of teacher guidance, students will produce at least two formal papers throughout the year.<br>Students must have the ability to read an average of 10-15 pages a night.<br>Students will actively participate in classroom discussions and develop the ability to initiate and maintain student-centered discussions.<br>Students will read one novel independently. | Students will produce several formal papers that vary in purpose, structure, and length.<br>Students must possess the willingness and ability to read an average of 25-30 pages a night.<br>Students will initiate and sustain student-centered discussions through insightful, analytical, and reflective comments.<br>Students will read two novels independently. |

### Skills

| <b>College Preparatory</b>  | <b>Honors</b>   |
|---|---|
| <b>Critical Thinking</b><br>·Students will further develop the ability to think at a high level through teacher scaffolding and guidance. | <b>Critical Thinking</b><br>·Students independently generate original, higher-level thinking. |

|   |   |
|---|---|
| <p><b>Reading Comprehension</b><br/>·Students will further develop the ability to read and understand literature independently.</p>   | <p><b>Reading Comprehension</b><br/>·Students independently employ and further develop numerous reading strategies to understand complex literature and the implied meanings therein.</p>   |
| <p><b>Writing Skills</b><br/>·Students will further develop the ability to write well-crafted paragraphs and five-paragraph essays of literary analysis.<br/>·Students will increase grammar and vocabulary skills.</p> | <p><b>Writing Skills</b><br/>·Students further develop the ability to express insightful ideas through clear logic and effective language.<br/>·Students will consistently apply grammar and vocabulary skills to their writing.</p>                              |
| <p><b>Academic Responsibility</b><br/>·Students will further develop the ability to work and think independently, including self-expression through the spoken and written word.</p>                                    | <p><b>Academic Responsibility</b><br/>·Students demonstrate the ability to formulate and express independent, original thinking through classroom discussions and formal writing assignments.<br/>·Students demonstrate a willingness to take academic risks.</p> |

All students will demonstrate academic diligence, dedication, and integrity.  
All homework assignments will be completed and submitted on time.  
Late work is accepted only when the assignments are of particular significance, such as essays, and are subject to late penalties.  
Students will prepare for quizzes and tests, and opportunities to re-take quizzes and tests will not be provided.  
Students will arrive in class every day with the materials necessary to fully participate in all classroom activities.  
Students will seek help whenever they deem it necessary and will self-advocate.  
Students will not be provided with extra-credit assignment opportunities.

## COURSE OFFERINGS

**ENGLISH 9 – WORLD LITERATURE**  
**111 Full Year – Honors**

**Grade 9**  
**5 Credits**

The primary goal of Honors English 9 is to develop students’ abilities as independent readers and writers. Writing skills are established through a first-semester "Boot Camp." This program will focus on all elements of formal writing, including grammar, punctuation, mechanics, the five-paragraph, expository essay and instruction on the use of in-text, parenthetical citations, which include the use of quotations, paraphrasing, and the construction of a Works Cited list. Vocabulary development is enhanced and expanded through regularly scheduled quizzes and tests based on the text *Vocabulary Workshop: Level D*. The literature component of the 9<sup>th</sup> grade program involves a genre-based study of works from around the world. *Prerequisite: Grade 8 teacher recommendation and satisfactory completion of entrance exam.*

**ENGLISH 9 – WORLD LITERATURE**  
**112 Full Year – College Prep**

**Grade 9**  
**5 Credits**

The Prep level program provides the same core of college preparation in English studies as the Honors. Extra attention is given to basic grammar review and writing skills but at a less accelerated pace and with greater attention given in class to individual needs. *Vocabulary Workshop: Level D* is the vocabulary text used. The literature component of the 9<sup>th</sup> grade program involves a genre-based study of works from around the world. *Prerequisite: successful completion of English 8.*

**ENGLISH 10 – American Literature I**  
**121 Full Year – Honors**

**Grade 10**  
**5 Credits**

The English 10 Honors course is designed as a chronological overview of the first 300 years of the American literary tradition. Study will include the writings of numerous literary periods, including early settlement, the American Revolution, Romanticism, Transcendentalism, Realism, Naturalism, and others. The primary goals of the course are to develop students' understanding of literature as a reflection of the cultural and historical context in which it is written and to seek answers to the question of what it has meant to be an American at different times in our nation's development. Throughout the year, students will focus on a wide variety of literary genres including non-fiction, poetry, short stories, essays, and novels. The course will also emphasize expository writing by focusing on developing fluency with the format and skills learned in ninth grade. Students will be expected to write increasingly sophisticated essays that use a clear thesis statement, fluid transitions, well-selected evidence, critical commentary, and MLA citation format. Students will engage in regular vocabulary study in order to become more precise in their oral and written communication. Grammar instruction is responsive to the needs of the students as determined by errors found in their written work. *Prerequisite to enter honors' level from CP: A final grade of "B-" or better in English 9.*

**ENGLISH 10- American Literature I**  
**122 Full Year – College Prep**

**Grade 10**  
**5 Credits**

The English 10 College Prep course will provide students the same chronological overview of the first 300 years of the American literary tradition as the Honors class at a less accelerated pace. Study will include the writings of numerous literary periods, including early settlement, the American Revolution, Romanticism, Transcendentalism, Realism, Naturalism, and others. The primary goals of the course are to develop students' understanding of literature as a reflection of the cultural and historical context in which it is written and to seek answers to the question of what it has meant to be an American at different times in our nation's development. Throughout the year, students will focus on a wide variety of literary genres including non-fiction, poetry, short stories, essays, and novels. The course will also emphasize expository writing by focusing on developing fluency with the format and skills learned in ninth grade. Students will be expected to write increasingly sophisticated essays that use a clear thesis statement, fluid transitions, well-selected evidence, critical commentary, and MLA citation format. Students will engage in regular vocabulary study in order to become more precise in their oral and written communication. Grammar instruction is responsive to the needs of the students as determined by errors found in their written work. *Prerequisite: successful completion of English 9.*

**ENGLISH 11 – A.P. LANGUAGE AND COMPOSITION**  
**130 Full Year – Advanced Placement**

**Grade 11**  
**5 Credits**

In addition to providing an accelerated study of American literature from 1900 through the present, junior AP English presents ambitious students with a college freshman English

curriculum that focuses upon various forms of rhetoric. Students will learn to discern authors' purposes and strategies and will seek to master control of their own writing for various purposes and audiences. The course prepares students for the College Board's national AP exam in English Language and Composition, a required undertaking for all who enroll. The challenging titles studied in this course are aligned with those suggested by the College Board. *Prerequisite to enter AP level from honors: A final grade of "B-" in English 10H.*

**ENGLISH 11 – AMERICAN LITERATURE**  
**131 Full Year – Honors**

**Grade 11**  
**5 Credits**

The eleventh grade Honors English course involves an in-depth study of American literature of the 20<sup>th</sup> Century. Through the readings, this course will examine historical periods from which the literature arose, beginning with the end of the 19<sup>th</sup> century. This course will also address the major thematic concerns of American literature over the course of the century to the present, including, but not limited to, what it means to be an American.

The Honors Junior English course at Manchester Essex Regional High School contains a more rigorous version of the College Preparatory (CP) curriculum. Texts, subject matter, and many assignments parallel those of the CP course, but they are typically assigned in greater quantities of pages read, pages written, and sources required in research. Honors students also have occasional opportunities to respond to AP level questions that develop advanced skills in literary analysis. Writing and vocabulary work will be a requirement for this course. The writing assignments in this class will range from the creative to more formal expository and persuasive essays. The expectations and goals for writing in this class include developing the writer's voice, clarity and simplicity of expression, creation of effective thesis statements, developing skills in smooth transitions between main ideas and effective proofreading of the writer's own work. Vocabulary words will be assigned at least every other week, followed by vocabulary quizzes and cumulative quarterly vocabulary tests. *Prerequisite to enter honors' level from CP: A final grade of "B-" or better in English 10*

**ENGLISH 11 – AMERICAN LITERATURE**  
**132 Full Year – College Prep**

**Grade 11**  
**5 Credits**

The eleventh grade College Prep English course involves an in-depth study of American literature of the 20<sup>th</sup> Century. Through the readings, this course will examine historical periods from which the literature arose, beginning with the end of the 19<sup>th</sup> century. This course will also address the major thematic concerns of American literature over the course of the century to the present, including, but not limited to, what it means to be an American.

Texts, subject matter, and many assignments parallel those of the Honors course, but they are typically assigned in smaller quantities of pages read, pages written, and sources required in research. Writing and vocabulary work will be a requirement for this course. The writing assignments in this class will range from the creative to more formal expository and persuasive essays. The expectations and goals for writing in this class include developing the writer's voice, clarity and simplicity of expression, creation of effective thesis statements, developing skills in smooth transitions between main ideas and effective proofreading of the writer's own work. Vocabulary words will be assigned at least every other week, followed by vocabulary quizzes and cumulative quarterly vocabulary tests. *Prerequisite: Successful completion of English 10.*

**ENGLISH 12 – A.P. LITERATURE AND COMPOSITION**  
**140 Full Year – Advanced Placement**

**Grade 12**  
**5 Credits**

In the college curriculum level of Advanced Placement English in Literature and Composition, young language arts scholars will be asked to explore classic and contemporary works, write analytically as well as creatively, express themselves in a number of public speaking contexts, and exercise critical thinking throughout their studies. Particular attention will be placed on understanding authors' effective use of literary devices in novels, short stories, poetry and plays. The course provides preparation for the national AP English exam, a required undertaking for all who enroll. The challenging titles studied in this course are aligned with those suggested by the College Board. *Prerequisite to enter AP level from honors: A final grade of "B-" in English 11H.*

**ENGLISH 12 – THE LITERATURE OF ENGLAND**  
**121 Full Year – Honors**

**Grade 12**  
**5 Credits**

The English 12 Honors course is designed as a chronological overview of the British literary tradition. Study will include the Anglo-Saxon, Norman, English Renaissance, Enlightenment, Romantic, Victorian, and Modern/Post-Modern periods. The primary goal of the course is to develop the students' understanding of literature as a reflection of the cultural and historical context in which it is written. Throughout the year, students will focus on a wide variety of literary genres including epics, elegies, fables, fabliaux, romances, ballads, sonnets, satires, tragedies, comedies, short stories, and novels. The course will also emphasize expository and creative writing. The expository writing students will complete will focus on developing fluency with the format and skills learned in grades nine through eleven. In addition to the college essay, students will be expected to write sophisticated essays that use a clear thesis statement, fluid transitions, well-selected evidence, critical commentary, and MLA citation format. The creative writing students complete will model the genres they are learning to deepen their appreciation and understanding.

Students will engage in regular vocabulary study in order to become more precise in their oral and written communication. Grammar instruction is responsive to the needs of the students as determined by errors found in their written work. *Prerequisite to enter 12H: A final grade of "B-" or better in English 11 CP.*

**ENGLISH 12- THE LITERATURE OF ENGLAND**  
**122 Full Year – College Prep**

**Grade 12**  
**5 Credits**

The English 12 course College Prep course will provide students the same chronological overview of the British literary tradition as the Honors class at a less accelerated pace. Study will include the Anglo-Saxon, Norman, English Renaissance, Enlightenment, Romantic, Victorian, and Modern/Post-Modern periods. The primary goal of the course is to develop the students' understanding of literature as a reflection of the cultural and historical context in which it is written. Throughout the year, students will focus on a wide variety of literary genres including epics, elegies, fables, fabliaux, romances, ballads, sonnets, satires, tragedies, comedies, short stories, and novels. The course will also emphasize expository and creative writing. The expository writing students will complete will focus on developing fluency with the format and skills learned in grades nine through eleven. In addition to the college essay, students will be expected to write increasingly sophisticated essays that use a clear thesis statement, fluid transitions, well-selected evidence, critical commentary, and MLA citation format. The creative writing students complete will model the genres they are learning to deepen their appreciation and understanding.

Students will engage in regular vocabulary study in order to become more precise in their oral and written communication. Grammar instruction is responsive to the needs of the students as determined by errors found in their written work. *Prerequisite: Successful completion of English 11.*

## ENGLISH ELECTIVE COURSES

### **JOURNALISM-STUDENT NEWSPAPER**

**The Manchester Essex Independent**

**161 Full Year – Honors**

**Grades 9-12**

**1.5 Credits**

The journalism class, an honors level elective, meets on Monday nights from 6:30-9:30 p.m., with the exception of monthly layout classes (for editors), which, last several hours. The purpose of the class is to produce the school newspaper, *The Independent*; therefore, interested students must be solid writers who are able to work independently and meet deadlines. Students who intend to write for *The Manchester Essex Independent* must be enrolled in the journalism class. Students must meet weekly article deadlines and complete supplemental homework assignments. The final number of credits will be based upon the number of articles (and pages for editors) that writers contribute over the course of the year. The grade will be the average of the four quarterly grades received for the year. *Prerequisite: A final grade of “B” or above in English the previous year; freshmen must be recommended by their eighth grade English teacher.*

## FOREIGN LANGUAGES

The Foreign Language program seeks to provide an opportunity for students to explore world cultures through language formation, the interchange of ideas and information in the target language and exchange opportunities.

The two languages currently offered are French and Spanish. The program provides an introduction to language structures and the cultures of other countries.

The department strives for proficiency in the four basic skills of reading, writing, listening and speaking in the language. However, special emphasis is placed on the skill of speaking the language of study. To this end, student-speaking ability is evaluated regularly through authentic assessments. Students must react to situations presented to them or create dialogues that would complete some contextual function. The program is modeled on an immersion style classroom setting. The target language is used almost exclusively for all classroom interaction.

The classroom instruction leads students to explore, to investigate and to understand various world cultures where French and Spanish are used in everyday life through a wide variety of multimedia sources. Students are exposed to different lifestyles, artistic expressions, famous people and holidays in order to expand their comprehension of their language study.

It is proven that College Board results improve with the number of years a foreign language is studied; and recently published statistics suggest a link between foreign language study and MCAS success. Depending on the college or university, two to four years of language study are required for admission and frequently a further modern language requirement will be required for graduation. Moreover, the Massachusetts Education Reform Act is calling for foreign language study for all students.

Any pupil who wishes to begin either French or Spanish as a second foreign language, and who had a B or better in the first one, is strongly advised to take an introductory summer course in the second language at Manchester Essex Regional High School, and then enter French II or Spanish II in September.

An additional component of this course of study is the possibility of spending time visiting either a French or a Spanish speaking country. This experience provides a context for language and cultural study, and strengthens international understanding. This program is available to students with a C- or better overall average who have demonstrated responsible behavior throughout their high school years.

The growing sense of a world community and world economy makes the study of a foreign language essential for business and professional careers in this new millennium. The Foreign Language Department at Manchester Essex Regional High School prepares students for success in this global environment.

## COURSE OFFERINGS

### FRENCH I

**Grades 9 - 12**

#### **312F Full Year - College Prep**

**5 Credits**

This French I course is offered to pupils in grades 9-12 who have little or no prior experience with the language. It is designed to prepare students for the French II College Prep or Honors class. Students will speak and write about topics related to them and their lives in the present, near future and passé composé tenses. Students will read and understand basic written and spoken directions as well as short dialogues and realia pertaining to the French culture. Students will present a short research project to the class about a Francophone country. They will be held responsible for the material presented by their classmates.

*Prerequisite: None.*

### FRENCH II

**Grades 9-12**

#### **321 F Full Year – Honors**

**5 Credits**

#### **322 F Full Year – College Prep**

In French II students will begin to speak and to write in two past tenses, the present, and the future. This range of expression allows students to more accurately describe their personal lives, interest, thoughts, and ideas. Students will write in grammatically correct sentences and paragraphs and will begin to develop full five paragraph essays. The usage of more sophisticated structures such as object pronouns and adverbial clauses will increase students' fluency in both speaking and in writing. Examples of thematic units in this course are visiting a châteaux, food shopping and meal presentations, preparing a party for a friend, and talking about relationships with peers. Students will use authentic resource materials whenever possible to enhance their reading skills. Additional projects include researching an African country, presenting a guided tour of a French castle, and exploring the world of 19<sup>th</sup> century photographers and painters. It is expected that the teacher and students will maintain French 100% of the time during this course.

*Prerequisite for Honors: A final grade of “B-” or above in eighth grade French or French I and a teacher recommendation.*

*Prerequisite for CP: A final grade of “C-“ or above in eighth grade French or French I.*

### FRENCH III

**Grades 10-12**

#### **331F Full Year Honors**

**5 credits**

#### **332F Full Year College Prep**

Students will focus their attention in three basic areas: building language proficiency, exploring people and culture of French-speaking countries, and developing strong writing skills. New vocabulary and grammar are introduced to enhance the student's level of proficiency, emphasizing the productive skills of speaking and writing. Students will narrate, describe, and explain various topics in the present, passé composé, imperfect, future and conditional tenses and the subjunctive mood. Students will speak and write in complex sentences and full paragraphs on topics relevant to their lives ( driving cars, discussing future choices and plans, clothing and styles, personal responsibilities, etc....) In addition to textbook exercises ( *Allez Viens III*), students will use a wide variety of authentic source materials and a “cahier électronique” to expand their learning experience. It is expected that the teacher and students will maintain French 100% of the time during this course.

*Prerequisite for Honors: A final grade of “B-” or above in French II honors and a teacher recommendation. A final grade of “A” or above in French II College Prep and a teacher recommendation.*

*Prerequisite for College Prep: A final grade of “C-” or above in French II College Prep or Honors.*

**AP FRENCH LANGUAGE and CULTURE**  
**340F/350F Full Year – Advanced Placement**

**Grades 11-12**  
**5 Credits**

The goals of this course are three fold: to improve student communication, to expand student understanding of cultures in Francophone countries, and to prepare students for the Advanced Placement French Language and Culture Exam which is given each May. Students will use all four language skills to discuss and to examine their own world, while simultaneously expanding their knowledge of French-speaking cultures around the globe. Making comparisons and drawing conclusions are essential components of the curriculum.

Students will read, listen, and view a wide assortment of materials from Francophone countries. Selections ranging from literary excerpts to scientific graphs will be presented to students in order for them to better understand the multiplicity of Francophone cultures as well as the global challenges facing us all today. Based on their observations, students will be asked to interpret, to analyze, and to present, both in the written and spoken form, a range of topics focusing on themes of family, community, health, cultural heritage, etc.

It is understood that the teacher and students will speak French 100% of the time. Students are required to take the Advanced Placement French Language Exam at the end of the year.

*Prerequisite: A final grade of “B-” or above in French III Honors and a teacher recommendation for French IV AP. A final grade of “B-” or above in French IV Honors and a teacher recommendation for French V AP.*

**FRENCH IV**  
**341F Full Year Honors**  
**342F Full Year College Prep**

**Grade 11**  
**5 credits**

The primary goal of French IV is to help students develop a deeper understanding of French culture. This exploration will go beyond superficial antidotes and cultural stereotypes. Students will approach “culture” as an encompassing theme, exploring the world of art and music, analyzing important moments in history, and reading French short stories. Students will investigate contemporary French culture by covering topics such as the environment ( Jacques-Yves Cousteau ), existing racial conflicts ( les Maghrébins), and health and medical care(Médecins sans Frontières). Students will equally explore topics such as city life, shopping (Internet, supermarket, tipping), travel and personal relationships ( planning a French wedding). While many units will concentrate on French culture, students will equally be introduced to the history, language, and traditions of Western and Central Africa.

Vocabulary acquisition is an important aspect of any language course and students will study new vocabulary pertinent to our areas of study. Students will review grammar topics only to facilitate their reading and speaking skills and to further develop their cultural literacy. It is expected that the teacher and students will maintain French 100% of the time during this course.

*Prerequisite for Honors: A final grade of “B-” or above in French III honors and a teacher recommendation. A final grade of “A” or above in French III College Prep and a teacher recommendation.*

*Prerequisite for College Prep: A final grade of “C-” or above in French III College Prep or Honors.*

**FRENCH V**  
**351F Full Year Honors**  
**352F Full Year College Prep**

**Grade 12**  
**5 credits**

French V is called “Imaginez: le français sans frontières”, and is an exciting new course open only to seniors. Students will continue their study of French language and culture using primarily “films de court métrage”, award-winning short- subject films by contemporary francophone filmmakers. These films will be viewed and discussed in class. In addition, students will study “A fond la sono” which features contemporary musicians and “Galerie de Créatures” highlighting important cultural and artistic figures from various countries and regions.

As in French IV students will study new vocabulary as it pertains to our films, songs, and readings. Grammar will be reviewed when necessary to enhance comprehension and class discussion. It is expected that the teacher and students will maintain French 100% of the time during this course.

*Prerequisite for Honors: A final grade of “B-” or above in French IV honors and a teacher recommendation. A final grade of “C-” or above in French IV AP and a teacher recommendation. A final grade of “A” or above in Spanish IV College Prep and a teacher recommendation.*

*Prerequisite for College Prep: A final grade of “C-” or above in French IV College Prep, Honors or French IV AP.*

**SPANISH I**  
**312S Full Year - College Prep**

**Grades 9 - 12**  
**5 Credits**

This Spanish I course is offered to pupils in grades 9-12 who have little or no prior experience with the language. It is designed to prepare students for the Spanish II College Preparatory or Honors class. Students will speak and write in colloquial expressions about topics related to them and their lives in the present, near future and preterit tenses. Students will read and understand basic written and spoken directions as well as short dialogues and realia pertaining to Spanish culture. Examples of thematic units in this course are talking about oneself and others, sports, food, music, activities, and the weather. Students will present a research project to the class about the ancient civilizations of Latin America and/or the geography, history and culture of a Spanish speaking country.

*Prerequisite: None.*

**SPANISH II**  
**321S Full Year - Honors**

**Grades 9 - 12**  
**5 Credits**

Students will have discussions about topics related to them and their surroundings and write in sentence and paragraph form in the present, preterit, imperfect, subjunctive and future tenses. Students will understand written realia and spoken language pertaining to

the Spanish culture. Examples of thematic units in this course are talking about yourself and others, chores, staying in shape, healthy diets, visiting your town, meal presentations, and talking about relationships with peers. Students will use authentic resource materials whenever possible to enhance their reading and listening skills. Additional projects include researching a well-known Spanish speaking person from 1650 to the present (e.g.: a past or present leader, artist or explorer). With rare exceptions, the teacher and students will speak Spanish 100% of the time.

*Prerequisite: A final grade of "B-" or above in eighth grade Spanish or Spanish I and a teacher recommendation.*

## **SPANISH II**

**Grades 9 - 12**

### **322S Full Year - College Prep**

**5 Credits**

Students will have short discussions about topics related to them and their surroundings and write in short sentence and paragraph form in the present, preterit, imperfect, subjunctive and future tenses. Students will understand written realia and spoken language pertaining to the Spanish culture. Examples of thematic units in this course are talking about yourself and others, chores, staying in shape, healthy diets, visiting your town, meal presentations, and talking about relationships with peers. Students will use authentic resource materials whenever possible to enhance their reading and listening skills. Additional projects include researching a well-known Spanish speaking person from 1650 to the present (e.g.: a past or present leader, artist or explorer). With rare exceptions, the teacher and students will speak Spanish 100% of the time.

*Prerequisite: A final grade of "C-" or above in eighth grade Spanish or Spanish I.*

## **SPANISH III**

**Grades 10-12**

### **331S Full Year- Honors**

**5 Credits**

Students will begin to command the full spectrum of grammar including the present, preterit, imperfect, future, conditional and perfect tenses and the subjunctive mood. Students will focus their attention in three areas: building language proficiency, developing strong writing skills and exploring people and culture of Spanish-speaking countries. Examples of thematic units in this course are talking about what you like to do, sports, activities, health, giving advice, and technology. Students will begin to read and listen to material prepared for native speakers. Students will present a research project to the class about an important cultural aspect of a Spanish speaking country. With rare exceptions, the teacher and students will speak Spanish 100% of the time.

*Prerequisite: A final grade of "B-" or above in Spanish II Honors and a teacher recommendation. A final grade of "A" or above in Spanish II College Prep and a teacher recommendation.*

## **SPANISH III**

**Grades 10 -12**

### **332S Full Year- College Prep**

**5 Credits**

Students will be able to narrate, describe and explain in sentence and paragraph form, orally and in writing, topics that relate to them and the world around them in the present, preterit, imperfect and future tenses. Examples of thematic units in this course are talking about what you like to do, sports, activities, health, giving advice, and technology. Students will begin to read and listen to material prepared for native speakers as well as

other sources. Students will present a research project to the class about an important cultural aspect of a Spanish speaking country. With rare exceptions, the teacher and students will speak Spanish 100% of the time.

*Prerequisite: A final grade of "C-" or above in Spanish II College Prep or Honors.*

### **AP SPANISH LANGUAGE**

**Grades 11-12**

#### **340S/350S Full Year Advanced Placement**

**5 Credits**

This course prepares students for the Advanced Placement Language examination in Spanish Language, which is given each May. Classroom instruction focuses on the four skills assessed by the exam: listening, reading, speaking and writing. The course offers intensive grammatical review and skills reinforcement in preparation for the examination. Students will be able to narrate, describe and explain orally and in writing, topics that relate to them and the world around them in the present, past, future and conditional tenses and the subjunctive mood. Students will read, interpret and analyze authentic literature that may include newspaper articles, plays, short stories, essays and poetry written by famous Spanish speaking authors. Students will also strengthen their listening skills by interpreting, and analyzing authentic materials such as podcasts, dialogs and videos. The teacher and students will speak Spanish 100% of the time.

Students are required to take the Advanced Placement Spanish Language Exam in the spring of their senior and junior years.

*Prerequisite: A final grade of "B-" or above in Spanish III Honors and a teacher recommendation for Spanish IV AP. A final grade of "C" or above in Spanish IV AP and a teacher recommendation for Spanish V A P.*

### **SPANISH IV and V**

**Grades 11-12**

#### **341S/342S Full Year - College Prep/Honors**

**5 Credits**

#### **351S/352S Full Year- College Prep/Honors**

The purpose of the class is to review, practice and reinforce previously learned grammar points while learning new vocabulary in order to increase proficiency. Skills oriented activities will be the basis of the class. Students while speaking and writing will be able to create, narrate, describe, interpret and analyze in sentence and paragraph form topics that relate to them and the world around them in the present, past and future tenses and the subjunctive mood. New vocabulary will be learned through thematic units based on travel in any given Spanish speaking country. Additionally, students will read a variety of short stories in the target language. During the course of Spanish IV and V, students will view the video series "Destinos" to sharpen linguistic and cultural understanding. The teacher and students will speak Spanish 100% of the time.

*Prerequisite for IV Honors: A final grade of "B-" or above in Spanish III Honors and a teacher recommendation. A final grade of "A" or above in Spanish III College Prep and a teacher recommendation.*

*Prerequisite for IV College prep: A final grade of "C-" or above in Spanish III College Prep or Honors.*

*Prerequisite for V Honors: A final grade of "B-" or above in Spanish IV Honors and a teacher recommendation. A final grade of "C-" or above in Spanish IV AP and a*

*teacher recommendation. A final grade of “A” or above in Spanish IV College Prep and a teacher recommendation.*

*Prerequisite for V College Prep: A final grade of “C-“or above in Spanish IV College Prep, Honors or Spanish IV AP and a teacher recommendation.*

**AP SPANISH LITERATURE**

**Grade 12**

**360S Full year-Advanced Placement**

**5 Credits**

This course is designed for students who scored a four or five on the AP Spanish Language Exam and prepares them to take the AP Spanish Literature Exam in May. Students will read a variety of works prescribed by the AP reading list. These include literature from Spain and Latin America. Students will be exposed to a variety of genres from medieval poetry to modern short stories to several full-length novels. Students will be expected to read, interpret, compare and contrast selections of literature at the college level. They also must be able to write critical essays at a high level of fluency in the Spanish language. Students who enroll in this course are required to take the AP Spanish Literature Exam in the spring. The teacher and students will speak Spanish 100% of the time.

*Prerequisite: A score of 3 or above on the AP Language exam and teacher recommendation.*

## MATHEMATICS

The goal of the Mathematics Department at MERHS is that all students will develop mathematical power through knowledge, practice, critical thinking, problem solving, and investigation. Further, all students will learn to communicate their mathematical ideas and to connect them to other disciplines and the real world.

All students are required to complete 3 years of mathematics (15 credits) for graduation, although the Mathematics Department at MERHS recommends that all students take 4 years of mathematics to properly prepare them for their future endeavors. Students generally take Algebra I, Geometry, and Algebra II in grades 9 through 11 or in grades 8 through 10. Juniors and seniors who have successfully completed Algebra 2 may take Pre Calculus (grades 11 or 12), Calculus (grade 12, given strong performance in Pre Calculus), or Financial Algebra (grade 12). Students planning to enter college after graduation should consult the specific mathematics requirements for their college choices before their junior year, so that they can make the proper course selections.

All mathematics courses at MERHS make appropriate use of technology. Problem solving is a major focus. Honors courses are designed to prepare students for the Advanced Placement Calculus AB Exam and require a commitment of time, effort, and seriousness of purpose. From time to time it may be appropriate for a student to change his/her sequence of courses or levels. The student's teacher or Guidance Counselor is well informed about the student's work and can offer valuable advice about placement.

### Math Department Calculator Policy

All students must have an approved calculator (no cell phones or similar devices) and are expected to bring it to each class. A graphing calculator is required for Algebra II and all courses beyond Algebra II.

## COURSE OFFERINGS

### ALGEBRA I

#### 411 Full Year – Honors

Algebra is the language of mathematics whose concepts and skills have become the basic mathematics requirement for nearly every employer and post-secondary school in the world. Topics include: Real number operations; solving, graphing and writing linear equations/inequalities; polynomial operations and factoring; powers and exponent laws; ratio and proportion, and quadratic equations. Applications include modeling with linear, absolute value, quadratic and exponential equations. Some examples of applications are compound interest, motion problems, and geometry problems. The use of technology, such as the graphing calculator, is introduced as necessary.

*Prerequisite: A final grade of "B-" or better in Pre-algebra and teacher recommendation*

### Grade 9

#### 5 credits

**ALGEBRA I****Grade 9****412 Full Year – College Prep****5 credits**

Content is similar to Algebra I-Honors but the pace is slower. Emphasis is placed on algebraic skills and real life applications. Topics include: Real number operations; solving, graphing and writing linear equations/inequalities; polynomial operations and factoring; powers and exponent laws; ratio and proportion, and quadratic equations. Applications include modeling with linear, absolute value, quadratic and exponential equations. Some examples of applications are compound interest, motion problems, and geometry problems. The use of technology, such as the graphing calculator, is introduced as necessary. *Prerequisite: Successful completion of Pre-Algebra (Math 8).*

**GEOMETRY****Grade 9 or 10****421 Full Year- Honors****5 credits**

The objective of Honors Geometry is to develop habits of clear thinking and precise expression, as well as an understanding of the fundamental facts and principles of Geometry. Topics include: deductive and inductive reasoning, proof, analytic geometry, polygons, circles, polyhedra, area, volume, coordinate geometry, ratio and proportion, probability, statistics, and an introduction to the calculator's functions and its applications in Geometry.

*Prerequisite: A final grade of "B-" or better in Algebra I Honors and/or teacher recommendation or an "A-" or better in Algebra I – CP, teacher recommendation, and department chair approval.*

**GEOMETRY****Grade 10****422 Full Year – College Prep****5 credits**

In this course, students will develop powers of spatial visualization and logical thinking while concurrently strengthening skills they learned in Algebra I. Most of the topics that are covered in Geometry-Honors are covered in this course, but with an emphasis on fundamentals and application of the concepts learned. A scientific calculator (with trigonometric capabilities) is required for this course. *Prerequisite: Successful completion of Algebra I.*

**ALGEBRA II****Grades 10 or 11****431 Full Year – Honors****5 credits**

In this course, students will deepen their understanding of concepts and skills they learned in Algebra I-Honors and Geometry-Honors. With a foundation in the Cartesian coordinate system, students will explore linear, quadratic, polynomial, exponential, and logarithmic functions. Transformations of functions will be a common thread throughout the year. Most formulas will be presented with a thorough explanation of their origin, and students will be expected to master the algebraic derivations that produce each one. Other topics include solving linear equations and inequalities, multivariate systems of equations and inequalities, advanced factoring of polynomials, solving polynomial equations, the Fundamental Theorem of Algebra, laws of exponents, radical expressions and functions, exponential and logarithmic equations (including connections to finance and population growth), sequences and series, and introductory combinatorics. Graphing calculators will be used regularly and are required for this course.

*Prerequisite: A final grade of "B-" or better in Geometry-Honors and/or teacher recommendation or "A-" or better in both Geometry-CP and Algebra-CP, teacher recommendation and department chair approval.*

**ALGEBRA II****Grade 10 or 11**

**432 Full Year – College Prep****5 credits**

In this course, students will deepen their understanding of concepts and skills they learned Algebra I-CP and Geometry-CP. The course builds on students' previous work with linear and quadratic functions, and extends to the study of polynomial, exponential, logarithmic, and rational functions. Transformations on graphs of functions are emphasized throughout the course, as are applications of these functions through modeling real data. A graphing calculator is required.

*Prerequisite: Successful completion of Algebra I and Geometry.*

**PRE-CALCULUS****Grade 11 or 12****441 Full Year – Honors****5 credits**

This course is prerequisite for Calculus. Pre-calculus views mathematics as a study of functions that model real situations. Studied in depth are circular and trigonometric functions, applications of trigonometry, exponential and logarithmic functions, conic sections, vectors, matrices, sequences and series, probability and statistics, as well as an introduction to the basic concepts of Calculus. Graphing calculators are required. *Prerequisite: "B-" or better in Algebra II-Honors and/or teacher recommendation.*

**PRE-CALCULUS****Grade 11 or 12****442 Full Year – College Prep****5 credits**

This course is for students who may aspire to take calculus in the future (either in high school or college), but who are not yet ready for the pace of Honors Pre Calculus. Pre Calculus views mathematics as a study of functions that model real situations. Topics studied include are circular and trigonometric functions, applications of trigonometry, exponential and logarithmic functions, conic sections, probability and statistics, as well as an introduction to the basic concepts of Calculus. Graphing calculators are required. *Prerequisite: "B-" or better in Algebra II-CP and/or teacher recommendation, or "C" or better in Algebra II-Honors and teacher recommendation.*

**FINANCIAL ALGEBRA****Grade 12****442 Full Year—Honors****5 credits**

Honors Financial Algebra is designed to provide a rigorous quantitative reasoning course including mathematics, statistics, algorithms, and formal symbolic logic. Students will apply and extend their Honors level leaning from Algebra II; Algebra I and Geometry to problem solve highly developed mathematic topics.

Honors Financial Algebra provides students with applicable numeracy needed by college bound students to reason about quantities, their magnitudes, and their relationships between and among other quantities. Topics include linear systems, linear programming, analysis and interpretation of graphs, logic and reasoning, descriptive statistics, the normal distribution, statistical inference, estimation and approximation. The course surveys the range and the applicability of modern quantitative techniques to a variety of disciplines. Topics vary and include mathematically business modeling with finance; supply and demand functions; fixed and variable expense; expense and revenue functions; break even analysis; profit; loss; piecework functions; data plot; statistics, probability, linear and exponential modeling, unit conversion and applications of higher-level math accessible via computers. Critical thinking and mathematical and quantitative literacy are emphasized. Students will learn how to describe, and interpret data to make informed, mathematically supported, decisions using various interpretive, summary and graphical techniques, along with measures of central tendency and variance. Calculation, quantification, and measurement can supplement but cannot replace quantitative reasoning and problem solving.

Two characteristics of this course should be noted from the outset. First, the course will emphasize the interpretation of data analysis over a theoretical approach. Second, most of the learning will take place through a hands-on approach to data analysis. This course will provide students with the ability to use to data to effectively inform decision making.

*Prerequisite: A final grade of B- or better in Algebra II-CP and/or teacher recommendation, or a “B-” or better in Algebra II-Honors and/or teacher recommendation.*

**FINANCIAL ALGEBRA**  
**442C Full Year—College Prep**

**Grade 12**  
**5 credits**

In this course, students will apply Algebra I, Geometry, and Algebra II concepts and skills to real-world problems in business and personal finance. Students will learn how to describe, and interpret data to make informed, mathematically supported, decisions using various interpretive, summary and graphical techniques, along with measures of central tendency and variance. Topics include business modeling, banking, investing, credit and loans, taxes, and budgeting.

*Prerequisite: A passing grade in Algebra II-CP or Algebra II-Honors.*

**AP CALCULUS AB**  
**450 Full Year – Advanced Placement**

**Grade 12**  
**5 credits**

Calculus involves the mathematics used to measure changes in physical quantities. This course covers both differential and integral calculus and their applications in science, business, and many other fields. Topics include derivatives/integrals of polynomial, rational, trigonometric, logarithmic and exponential functions. Approximations, area under a curve, volumes, lengths of plane curves, related rates, maxima, minima and differential equations are major points of interest. Calculus students are expected to take the College Board AP Calculus Exam given in May. A graphing calculator is required for this course.

*Prerequisite: A final grade of “B-” or better in Pre-Calculus and/or teacher recommendation.*

**HONORS CALCULUS**  
**451 Full Year – Honors**

**Grade 12**  
**5 credits**

Topics are similar to AP Calculus although fewer topics may be covered because of a slower pace and less depth. The student is NOT expected to take the College Board AP Calculus Exam. A graphing calculator is required for this course.

*Prerequisite: A final grade of “B-” or better in Pre-Calculus and/or teacher recommendation.*

## MUSIC/DRAMA

Manchester Essex Regional High School offers opportunities for students to participate in one of three performing groups: High School Band, Jazz Band, and High School Chorus. Students of all ability levels are encouraged to participate in one or more groups that meet during the day and perform at a number of events throughout the year, as well as sponsor a holiday and a spring concert. As demand and schedule permit, Music Theory and Independent Study may also be available. Many MERHS students have also achieved recognition through district competition and play in area orchestras and choral groups.

### COURSE OFFERINGS

#### MUSIC THEORY

##### 761 Semester – College Prep

This course is recommended for beginners as well as the more serious musician who is looking to further enhance their musical skills. Students will learn to read standard musical notation with pitch and rhythm work, basic piano/keyboard skills, key signatures, scales, and intervals. Simple dictation and sight-reading will be included. Traditional form analysis will also be introduced depending on the development of the class.

**Grades 9-12**

**2.5 Credits**

#### HIGH SCHOOL BAND

##### 757 Full Year – College Prep

Students will show improvement on their instruments, while enjoying the opportunity to perform with an outstanding musical ensemble. Musical arrangements performed by the High School Band will include marches, overtures, pop, rock, patriotic, and holiday music. Member of the High School Band are required to perform in the High School Pep Band. The Pep Band performs at school rallies and home football. Required performances by the High School Band include the Town Tree Lighting, Winter and Spring Concerts, and the Memorial Day Parade. Scheduled trips are planned for the High School Band every other year. It is also required that members of the High School Jazz Band participate in the High School Band. Students will also be encouraged to audition for District Festivals.

**Grades 9-12**

**2.5 Credits**

*Prerequisite: Band Director approval.*

#### INDEPENDENT STUDY

##### College Prep

This option is for advanced students who will work with a teacher in a special program.

*Prerequisite: Approval of the teacher.*

**Grades 9-12**

**Credits Vary**

#### JAZZ BAND

##### 758 Second Semester – College Prep

Jazz Band will meet one evening per week during the second semester. The Jazz Band performs each year at the Evening of Jazz and the Academic Awards Ceremony. Musical arrangements performed by the Jazz Band include swing, blues, rock, funk, Latin, and pop ballads. Each member of the Jazz Band will have the opportunity to improve on his/her skills while performing with this elite group. Members will also have the opportunity to solo with this group.

**Grades 9-12**

**1.25 Credits**

*Prerequisite: Band Director approval.*

**HIGH SCHOOL CHORUS****763 Full Year – College Prep****763Y Full Year, Daily- College Prep****Grades 9-12****3 Credits****5 Credits**

Open to both experienced and inexperienced singers, students will learn proper vocal production choral singing techniques and ensemble skills while performing a variety of musical styles. Musical literature will include early madrigals, both sacred and secular traditional selections, as well as pieces from the popular, contemporary and musical theater repertoire. There will be opportunities for solo and small ensemble work as well. Advanced students are encouraged to audition for the Massachusetts Senior District Chorus in the late fall of each year. Required performances will include a Winter and Spring Concert, Town Tree Lighting, NHS Induction and Baccalaureate. *Prerequisite: None.*

**SPECIAL NOTES**

Band and Chorus may not meet every day during the week. Thus, students may register for both courses.

It is necessary for students to attend all evening rehearsals. Credit for night rehearsals for Band and Chorus will be awarded appropriately. If a student's schedule does not permit a day class, night rehearsals are an option.

## **PHYSICAL EDUCATION AND HEALTH**

Physical Education contributes to the development of the individual through a multifaceted approach to learning. It is a sequence of experiences designed to help each student develop physically, emotionally and socially. Students are introduced to team as well as individual sports, games, and life-long activities that contribute to their growth, development and behavior needs. The health education component helps students avoid problems by teaching them to make choices that promote health and well being in order to make life more satisfying, productive and rewarding. Current health issues are explored. The two components are intertwined throughout the course.

### **COURSE OFFERINGS**

#### **PHYSICAL EDUCATION AND HEALTH**

**Grade 9-10**

#### **909 Semester – College Prep**

**2.5 Credits**

The goal of Physical Education and Health is to teach students how to develop and maintain health and a routine for fitness as a life-long process. To accomplish this goal Physical Education/Health class is mandatory for all ninth and tenth graders. The Physical Education component will introduce students to team as well as individual sports, games, and life-long activities. The health component will explore current health issues in order to give students the information needed to make sensible decisions concerning their health.

## SCIENCE

Three full years of Science (15 credits) are required for graduation. All students in grades 9, 10, and 11 are expected to take at least one science course each year in order to fulfill the requirement and allow greater flexibility in course selection as seniors. Over 90% of all high school students take more than the basic requirements. A common sequence is Physics First, Biology, and Chemistry with several alternatives available in grades 11 and 12. Some students choose to take both biology and chemistry as sophomores, to enable them to take more electives as upperclassmen. This is particularly advisable if a student is interested in the Authentic Science Research Program (ASR) and A.P. Biology.

### COURSE OFFERINGS

#### **PHYSICS: A First Course**

**Grade 9**

#### **511 Full Year – Honors**

**5 Credits**

This first course in physics is intended for all grade 9 students to provide high school level instruction in the major topics in physics. The curriculum is designed to provide a strong basis for future studies in high school science. The topics include forces and motion, energy and systems, atomic and subatomic physics, electricity and magnetism, waves and sound and light and optics. An inquiry-based program is used to teach practical, real world applications and practice in lab techniques. Math skills and physics concepts are used to reinforce each other and serve as the building blocks of a strong foundation in physical science.

*Prerequisite: A final grade of “B” or better in 8<sup>th</sup> grade science, C- or better in Algebra I and permission of grade 8 science teacher.*

#### **PHYSICS: A First Course**

**Grade 9**

#### **512 Full Year– College Prep**

**5 Credits**

This first course in physics is intended for all grade 9 students to provide high school level instruction in the major topics in physics. The curriculum is designed to provide a strong basis for future studies in high school science. The topics include forces and motion, energy and systems, atomic and subatomic physics, electricity and magnetism, waves and sound and light and optics. An inquiry-based program is used to teach practical, real world applications and practice in lab techniques. A strong conceptual focus in physics, with practice in simple math skills will be the focus.

*Prerequisite: None.*

#### **BIOLOGY**

**Grade 10**

#### **521 Full Year - Honors**

**5 Credits**

Students are expected to be able to solve problems by analysis, synthesis, and evaluation. They should be able to hypothesize and test their hypothesis and exhibit intellectual curiosity. Topics considered include: Environmental, life processes, microbiology, nuclear division, the cell, DNA, genetics, evolution and the human body. Students are expected to be self-motivated, work independently, and complete work on their own initiative. See the “Indicators for Honors or Advanced Placement” on page 11. Laboratory and intellectual processes emphasized.

*Prerequisite: A final grade of a B or better in Honors Physics First or an A- in Prep Physics First, and permission of grade 9 science teacher.*

**BIOLOGY****522 Full Year – College Prep**

This course covers the nature of living things, their structure, function, classification, habitats, heredity, and interrelationships. Topics covered include: cells and cell processes, genetics, evolution, reproduction, and human biology. There will be an emphasis on lab work and lab reports. Students are expected to apply learned material to new problems. *Prerequisite: None.*

**Grade 10****5 Credits****CHEMISTRY****531 Full Year – Honors**

Chemistry investigates the structure and composition of matter on a submicroscopic scale, as well as chemical reactions and involved energy changes. Discovering and internalizing concepts through experiments and class exercises will be frequently applied to new problem solving situations. Natural curiosity and an attitude of scientific inquiry are advantageous. One goal of the course is to prepare the class for the College Board SAT II in Chemistry, which all students are encouraged to take. See the “Indicators for Honors and Advanced Placement” on page 11. *Prerequisite: Students must have achieved at least a “B-” in Honors Biology and be enrolled in Algebra II, or received a grade of B- or better in Algebra II, and permission of grade 10 science teacher.*

**Grades 11-12****5 Credits****CHEMISTRY****532 Full Year - College Prep**

Chemistry investigates the structure and composition of matter on a submicroscopic scale, as well as chemical reactions and involved energy changes. Discovering and internalizing concepts through experiments and class exercises will be frequently applied to new problem solving situations. Written homework assignments and problem solutions are required to be recorded in a notebook and kept up-to-date. *Prerequisite: Students must have passed Algebra I.*

**Grades 11 -12****5 Credits****PHYSICS****541 Full Year – Honors**

Advanced Physics provides a mathematically based introduction to the study of energy and matter. The course will include topics such as forces, motion, electricity, magnetism, light, and heat. Students should be comfortable using algebra and geometry to solve physical problems; advanced mathematics such as calculus will not be required. Lab work and demonstrations will be an important part of the course. See the “Indicators for Honors and Advanced Placement” on page 11. *Prerequisite: A final grade of “B-” or better in Honors Algebra II or concurrent enrollment in Pre-calculus, and a grade of B- in another Honors level Science class, and permission of previous science teacher.*

**Grades 11-12****5 Credits****PHYSICS****542 Full Year – College Prep**

The essential ideas of physics, such as why and how matter behaves as it does are emphasized. The topics include forces, matter, energy, electricity, magnetism, light and heat. The course is designed to provide the non-technical person with survival tools for living in a technical age and, at the same time, to give a conceptual framework for further quantitative study for those preparing for technology related careers. Lab work and demonstrations are provided. *Prerequisite: None.*

**Grade 11-12****5 Credits****AP BIOLOGY****550 Full Year – Advanced Placement****Grades 11 – 12****5 Credits**

The AP Biology course will follow the curriculum set by the College Board. It is the equivalent of two semesters of introductory biology courses taken by biology majors in their freshman year in college. We will develop concepts, analytical skills, and lab techniques required for advanced study. In-depth inquiry into biochemistry, cells, heredity, evolution, organisms, and populations will be achieved through labs, lecture, writing, research, and fieldwork. Students selecting AP Biology are required to take the Advanced Placement exam. *Prerequisites: A final grade of “B” in Honors Biology and concurrent enrollment in Honors Chemistry, or its completion, and satisfactory completion of summer work by the first day of school, and permission of instructor.*

**AP ENVIRONMENTAL SCIENCE**  
**590 Full Year- Advanced Placement**

**Grade 11-12**  
**5 Credits**

This course will follow the curriculum set by the College Board. Research, lab, field and class work will be on topics such as ecosystem structure, energy flow, population ecology, human demographics, biogeochemical cycles, solid waste, pollution, atmospheric issues and public policy. *Prerequisite: Concurrent enrollment in Honors Chemistry, and B- or better in Honors Biology, and satisfactory completion of summer work by the first day of school, and permission of instructor.*

**AP PHYSICS C: Mechanics**  
**540 Full Year – Advanced Placement**

**Grade 11 – 12**  
**5 Credits**

This is an introductory calculus based physics course in mechanics. It is designed to prepare students for the AP Physics C: Mechanics Exam and will provide an introduction to physics necessary for a multitude of college science courses that have physics as a prerequisite. The course is calculus based and will cover topics in kinematics, vectors, Newton’s Laws, rotational dynamics, gravitation, work and energy principles, and simple harmonic motion. The course work will focus on problem solving. AP Physics students are expected to take the AP Physics Exam given in May as part of their assessment.

*Prerequisite: Concurrent enrollment in Calculus, “B-“ Honors Algebra I., plus completion of summer work by the first day of school.*

**HUMAN ANATOMY & PHYSIOLOGY**  
**551 Full Year – Honors**

**Grade 11-12**  
**5 Credits**

In this course the student will investigate the processes of life from the molecular to the systemic level. Human anatomy and physiology will be accomplished through extensive microscope work as well as comprehensive dissection of specific specimens, such as brain, eye, heart and lung, and culminates with dissection of the fetal pig. This course is an introduction to the structure and function of the human body. Information is presented in lectures, labs, class activities and interactive web activities. It is fast-paced and challenging; each chapter will be covered in approximately 1.5-2 weeks. Honors and College Prep levels are taught simultaneously.

*Prerequisite: A final grade of “B-” in Advanced Biology, “A-” in Prep Biology and “B-“ in Chemistry is required.*

**HUMAN ANATOMY & PHYSIOLOGY**  
**552 Full Year – College Prep**

**Grade 11-12**  
**5 Credits**

In this course the student will investigate the processes of life from the molecular to the systemic level. Human anatomy and physiology will be accomplished through extensive

microscope work as well as comprehensive dissection of specific specimens, such as brain, eye, heart and lung, and culminates with dissection of the fetal pig. This course is an introduction to the structure and function of the human body. Information is presented in lectures, labs, class activities and interactive web activities. It is fast-paced and challenging; each chapter will be covered in approximately 1.5-2 weeks. Honors and College Prep levels are taught simultaneously.

*Prerequisite: A final grade of “C-“ in Prep Biology, and “C-“ in Prep Chemistry.*

**TOPICS IN SCIENCE: Not all of these courses may be offered each year.**

### **AUTHENTIC SCIENCE RESEARCH PROGRAM**

**Grades 11 –12**

*ASR is a unique, flexible research program, which allows students to take a one or a two year course, with or without a summer internship. ASR I is taken by juniors and seniors. Either group may choose to pursue a summer internship, or to take the course as a one-year research methods course. Students decide by the end of Quarter 1 whether they wish to find a mentor and a summer internship position. If they opt to not do a summer internship, the course continues for the rest of the school year, and does not continue to a second year.*

*This program allows self-motivated students to pursue and original and independent research project under the mentorship of professional scientists and academics. Students must be able to devote much of the summer between junior and senior year to full-time work at an internship, most often in the Boston area.*

### **AUTHENTIC SCIENCE RESEARCH I**

**Grade 11**

**591 Full Year – Honors**

**5 credits**

During the first year of the sequence each student will choose a topic of interest for individual research. The sequence is aimed at the student who wishes to pursue excellence, investigate lines of inquiry, and who may wish to consider working in science research. College level research skills, high level experimental design and methodologies will be taught. The first year will also focus on journal – based research, and skills in reading scientific journals and writing scientific papers will be taught. If the student chooses to do a summer internship, then during Quarter they will engage in a search for a mentor and a position. These students must be willing and able to devote much of the summer to do research, often in the Boston area.

If a student chooses to not do a summer internship, then second semester will be devoted to research and presentation on chosen topics. Refer to the descriptions below for the continuation of the sequence. Prerequisite: Permission of the instructor, and enrollment in advanced science course/s (i.e. AP Biology, AP Computer Science, AP Physics).

### **AUTHENTIC SCIENCE RESEARCH II**

**Grade 12**

**592 Full Year – Honors**

**5 credits**

This course is intended for students who have completed ASR 1, and who did a summer internship. The student will write a formal research paper and will be involved in presentations of this and various other works. Students will also collaborate with those in the first year sequence, and will act as junior advisors. Submission of entries into science competitions and essay contests will take place. Readings and research will continue throughout the year.

*Prerequisite: Completion of 591, and successful completion of summer research with mentor.*

### **ROBOTICS DESIGN & ENGINEERING**

**Grade 9-12**

**555 Semester Honors****2.5 Credits****554 Semester CP**

This hands-on, rich and exciting multidisciplinary course will immerse you in the exciting and popular science of robotics. Working in small teams, students will explore topics that include: engineering, applied physics, electronics and control theory and technology. The interest in robotic devices and systems has exploded over the last few years, as advances in robotic technologies have proven useful in many human and government scientific endeavors. This course introduces students to the exciting field of robotics, while providing unique opportunities to design, engineer, manufacture, test, program, and control robots while putting them through a series of real-world design challenges. This course will require students to read in the content area, think critically, and work with other to solve challenging problems. Lab work, research, troubleshooting, instrumentation and building/manufacturing will be an important part of the course.

**COMPUTER AIDED DRAFTING (3D Solid Modeling with Pro/Engineer)****626 Semester Honors****Grades 9-12****624 Semester CP****2.5 Credits**

This class is a hands-on, exercise-intensive approach to all of the important parametric (geometric definitions of a design) 3D Modeling techniques and concepts. The goal of this course is to introduce and develop Parametric Modeling techniques and concepts for the CAD novice. Students will begin with constructing basic shapes and progress towards building intelligent solid 3D models that rotate with multiple views. This is accomplished through a series of ten tutorial style lessons. Each lesson builds upon the previous lesson, creating a solid foundation of Computer Aided Engineering skills.

**INDUSTRIAL DESIGN AND ENGINEERING****Grades 9-12****627 Semester - College Prep****2.5 Credits****625 Semester - Honors****2.5 Credits**

Industrial Designers and Engineers are concerned with both function and form, and combine aspects of engineering with design. In this course, students will learn the basics of Pro Engineer CAD software, and use the program to create 3D models of products such as furniture, housewares, transportation, athletic equipment, and other manufactured items. Students will be presented with design problems and will work in groups or individually to solve them. Principles of Art and Design will be used to create aesthetically pleasing yet functional designs. The work of contemporary industrial designers and engineers will be viewed and analyzed. Class discussions and critiques will help students to improve their projects.

**ELECTRONICS****Grades 9-12****558 Semester-Honors****2.5 Credits****556 Semester- CP****2.5 Credits**

Basic Electronics offers the student the opportunity to do project-based, hands on activities that promote an understanding of electricity and electronics. Projects will extend the learning provided beyond the pre-assembled, programming oriented activities provided in Robotics. This may appeal to students on Robotics First team who wish to learn electronic skills, those who are interested in Green Technologies such as wind turbine and solar panel technologies, and those who wish to learn about skills needed in the automotive and electrical trades. Topics include mathematics of electronics, AC wiring, DC, electronic components, circuit design, digital logic, micro controllers and Arduino programming.

Prerequisites: C in Algebra 1