

**Sayreville War Memorial  
High School  
Course Description  
Book  
2017-2018**



Sayreville War Memorial High School  
Office of Guidance and Counseling  
820 Washington Road  
Parlin, New Jersey 08859  
732.525.5280

# **ART DEPARTMENT**

**ADVANCED ART** 5 CREDITS  
**Prerequisite:** Introduction to Art or department approval; Grades 10-12 Full Year

The course explores in greater depth the principles of design offered in the introductory course. Projects in sculpture and still life drawing are added to the requirements. (Performing Art)

**ADVANCED PLACEMENT ART HISTORY** 5 CREDITS  
**Prerequisite:** Grades 11-12; must achieve a proficient score on standardized tests in Language and Writing skills; B in English; department approval Full Year

The A.P. offering provides the student with an understanding of various art forms through historical and cultural contexts. Analyze artwork critically with intelligence and sensitivity. (Performing Art)

**ART WORKSHOP** 5 CREDITS (Single period)  
10 CREDITS (Double period)  
**Prerequisite:** B in Advanced Art or permission of department supervisor Full Year

This course provides for individual development and experimentation in a choice of different media. Portfolio preparation will be included. (Performing Art)

**CREATIVE CRAFTS** 2.5 CREDITS  
**Prerequisite:** None One Semester

The course will cover yarn design, mosaics, copper embossing, paper marbling, latch hook rugs, dream catchers, plaster sculpture, collage and graphic design. Individual goals will be emphasized. (Performing Art)

**DIGITAL ARTS** 2.5 CREDITS  
**Prerequisite:** Grades 11-12; Introduction to Art One Semester

This course introduces students to the basics of photography, such as cropping, coloring, lighting and graphic arts, design and software skills. Brochures, programs, business cards, logos and the like will be produced. (Performing/ Practical Art)

**FASHION ILLUSTRATION** 2.5 CREDITS  
**Prerequisite:** Introduction to Art One Semester

This course enables students to understand, analyze and draw fashion figures from different views. Skills will be developed to create unique designs. (Performing Art)

**INTRODUCTION TO ART** 2.5 CREDITS  
**Prerequisite:** None One Semester

Explores the principles and elements of design through a variety of techniques including watercolor, tempera, sketching, pen and ink and printing. (Performing Art)

**JEWELRY AND METAL WORKING 1** 2.5 CREDITS  
**Prerequisite:** Grades 11-12 given preference One Semester

Introduces students to the basic techniques of metal working/jewelry making. Techniques include piercing, sawing, riveting and soldering. (Performing Art)

**JEWELRY AND METAL WORKING 2** 2.5 CREDITS  
**Prerequisite:** Jewelry and Metal Working 1 One Semester

An advanced continuation of Jewelry and Metal Working 1. (Performing Art)

**SCULPTURE AND CERAMICS 1** 2.5 CREDITS  
**Prerequisite:** Grades 11-12 given preference One Semester

This course provides students with practical and technical knowledge in hand-formed ceramics. There will be a strong emphasis on textural and glazed decoration. (Performing Art)

**SCULPTURE AND CERAMICS 2** 2.5 CREDITS  
**Prerequisite:** B in Sculpture and Ceramics 1; Grades 11-12 given preference One Semester

An advanced continuation of Sculpture and Ceramics 1. (Performing Art)

**STAINED GLASS** 2.5 CREDITS  
**Prerequisite:** Grades 11-12 One Semester

The course will cover the two major styles of stained glass construction, i.e. Tiffany style and lead cane construction. Techniques include cutting, copper foil wrapping and soldering. (Performing Art)

# **BUSINESS DEPARTMENT**

**ALL PLACEMENT CRITERIA LISTED BELOW IS AS OF THE DATE/TIME OF REGISTRATION.**

**BUSINESS ORGANIZATION AND MANAGEMENT**  
**Prerequisite:** None 2.5 CREDITS  
One Semester

An introduction to business. Students will learn principles of business organization. Areas include money, insurance, budgeting, government and industry. (Practical Art)

**CAREER DEVELOPMENT** 2.5 CREDITS  
**Prerequisite:** None One Semester

Designed to develop students' interests and aptitudes as well as to strengthen decision making skills. Students will explore the many careers available to them and begin to develop a path to future career possibilities. (Practical Art)

**ESSENTIALS OF MARKETING** 2.5 CREDITS  
**Prerequisite:** None One Semester

Preparing students for marketing occupations involving complex duties and decision making processes. Students are expected to participate in DECA, the student organization. (Practical Art)

# ***COMPUTER SCIENCES***

## **ALL PLACEMENT CRITERIA LISTED BELOW IS AS OF THE DATE/TIME OF REGISTRATION.**

### **COMPUTER NETWORKING AND DESIGN**

**Prerequisite:** Algebra 1; Upperclassmen 5 CREDITS  
given preference Full Year

Students will study the internal components of a computer, assemble a system and troubleshoot problems. Hands on lab activities are essential components. Virtual learning tools are also integrated. (Practical Art)

### **TRENDS IN COMPUTER SCIENCE - HTML**

**Prerequisite:** Intro to Computer Science 2.5 CREDITS  
One Semester

Focuses on the design and construction of Internet Web pages. Students will build a sample web site, incorporating graphics, text, tables, buttons and interactivity. (Practical Art)

### **ADVANCED CONCEPTS IN COMPUTER PROGRAMMING**

**Prerequisite:** Intro to Computer Science 2.5 CREDITS  
One Semester

Students will gain an understanding of advanced languages such as C++ and Java. Topics include algorithms, static and dynamic data structures, sequence, repetition and conditions. The course includes thorough coverage of the AP Computer Science syllabus which aligns with the testing standards. (Practical Art)

### **INTRODUCTION TO COMPUTER SCIENCE**

**Prerequisite:** Algebra 1 2.5 CREDITS  
One Semester

Students will be introduced to the concepts essential to all programming languages. By moving through the program development cycle of analysis, design, coding, testing, debugging and documenting, students will learn the skills necessary to enroll in advanced computer science courses. (Practical Art)

### **GAME DESIGN AND APP DEVELOPMENT**

**Prerequisite:** Intro to Computer Science 2.5 CREDITS  
One Semester

Students will be introduced to the basic elements of game design and app development. The importance of storytelling and planning will be discussed. Teamwork will be utilized as students move through program development. (Practical Art)

## **ENTREPRENEURSHIP & SMALL BUSINESS**

**MANAGEMENT** 5 CREDITS

**Prerequisite:** 2.5 credits in Business Courses Full Year  
Students will gain an understanding of entrepreneurship and the role of small businesses. Students will create a small business while developing social and ethical responsibility. Students are expected to participate in DECA, the student organization. (Practical Art)

**INTRODUCTION TO ACCOUNTING** 5 CREDITS

**Prerequisite:** Grades 10-12 Full Year  
Basic accounting skills, such as debits and credits, recording transactions and financial reports will be studied. Simulations will be used. Students will use Microsoft Excel to integrate spreadsheets. Highly recommended for business and college preparatory students. (Practical Art)

**FINANCIAL ACCOUNTING HONORS** 5 CREDITS

**Prerequisite:** B in Algebra 2 Full Year  
Students will learn from a college level textbook and will be taught at an accelerated rate. Topics include preparation of financial statements, adjusting, closing and revising entries, inventory evaluation and fixed assets and depreciation. Microsoft Excel will be used. (Practical Art)

## **COOPERATIVE WORK EXPERIENCE SEMINAR**

**Prerequisite:** 2.5 credits in Business 10 CREDITS  
courses; Grade 12. Prior Full Year  
to senior year students  
must have completed 95  
credits; must have passed  
all sections of  
Standardized Testing  
Requirements. Students  
will apply to the Co Op  
Coordinator for approval.

This is a cooperative program between school and the business community. After completing the course, students are ready to obtain beginning positions in business. Students are expected to demonstrate competence through successful participation in the program and are encouraged to participate in DECA or FBLA, the student organizations. Besides classroom lessons, a minimum of 270 hours of outside school supervised work is required. (Practical Art)

**MICROSOFT OFFICE SUITE** 5 CREDITS

**Prerequisite:** None Full Year  
Students will learn the basics of Word, Excel, PowerPoint and Access and will be given projects to develop their skills. Merges, macros, advance editing and advanced graphics will also be taught. (Practical Art)

## **SPORTS AND ENTERTAINMENT MARKETING**

**Prerequisite:** Grades 11-12 and 2.5 2.5 CREDITS  
credits in Business One Semester  
courses

Students will learn the basics of marketing and how they are applied to sports and entertainment events. Financing, pricing, promoting products, distribution, selling, legal and ethical issues will be explored. (Practical Art)

# **FAMILY AND CONSUMER SCIENCES DEPARTMENT**

## **FOODS AND NUTRITION 1 2.5 CREDITS**

**Prerequisite:** Grade 12 One Semester  
An introductory course designed to familiarize students with the preparation of basic nutritious foods. Quick breads, cookies, yeast breads, pies and cakes will be introduced. (Practical Art)

## **FOODS AND NUTRITION 2 2.5 CREDITS**

**Prerequisite:** Foods & Nutrition 1 One Semester  
An advanced continuation of Foods and Nutrition 1. (Practical Art)

## **GOURMET COOKING 2.5 CREDITS**

**Prerequisite:** Foods & Nutrition 1 and/or teacher recommendation One Semester

The preparation of special foods using unusual utensils will be the focus of the course. (Practical Art)

## **PARENTING AND CHILD DEVELOPMENT 2.5 CREDITS**

**Prerequisite:** Grades 11-12 One Semester

This course is intended for those interested in teaching or caring for children and those interested in child-related occupations. The four areas of child development (physical, emotional, social and cognitive) will be explored. (Practical Art)

# **HISTORY DEPARTMENT**

## **WORLD HISTORY HONORS 5 CREDITS**

**Prerequisite:** A- in Grade 8 Social Studies Full Year  
and supervisor approval

A chronological view of world history from the Classical civilizations of Greece and Rome through the nationalistic revolutions of 1848. Emphasis will be placed upon the Medieval World, the Renaissance and the Reformation.

## **WORLD HISTORY CP 5 CREDITS**

**Prerequisite:** Teacher recommendation Full Year  
A chronological view of world history from the Classical civilizations of Greece and Rome through the nationalistic revolutions of 1848. Emphasis will be placed upon the Medieval World, the Renaissance and the Reformation.

## **WORLD HISTORY 5 CREDITS**

**Prerequisite:** Teacher recommendation Full Year  
This course is a supportive instructional program designed for

students with language arts deficiencies. A chronological view of world history from the Classical civilizations of Greece and Rome through the nationalistic revolutions of 1848. Emphasis will be placed upon the Medieval World, the Renaissance and the Reformation.

## **ADVANCED PLACEMENT U.S. HISTORY 1 5 CREDITS**

**Prerequisite:** A- in World History Honors, Full Year  
teacher recommendation, and  
department supervisor  
approval

An in depth, chronological study of the history of the United States from pre-Columbian explorations through the beginning of the twentieth century. Students will be exposed to traditional and revisionist interpretations of United States History.

## **U.S. HISTORY 1 HONORS 5 CREDITS**

**Prerequisite:** B in World History Honors or Full Year  
A in World History CP;  
teacher recommendation

An in depth, chronological study of the history of the United States from pre-Columbian explorations through the beginning of the twentieth century. The course will be supplemented by documents and literature pertinent to the period of study.

## **U.S. HISTORY 1 CP 5 CREDITS**

**Prerequisite:** Teacher recommendation Full Year  
A chronological study of the history of the United States from pre-Columbian explorations through the beginning of the twentieth century.

## **U.S. HISTORY 1 5 CREDITS**

**Prerequisite:** Teacher recommendation Full Year  
This course is a supportive instructional program designed for students with language arts deficiencies. A chronological study of the history of the United States from pre-Columbian explorations through the beginning of the twentieth century.

## **ADVANCED PLACEMENT U.S. HISTORY 2 5 CREDITS**

**Prerequisite:** AP US History 1, teacher Full Year  
recommendation, and  
department supervisor  
approval

A continuation of AP US History 1. An in depth, chronological study of the history of the United States from the twentieth century to the present. Students will be exposed to traditional and revisionist interpretations of United States History.

## **U.S. HISTORY 2 HONORS 5 CREDITS**

**Prerequisite:** B in US History 1 Honors or A Full Year  
in US History 1 CP and  
department supervisor  
approval

A continuation of U.S. History 1 Honors. An in-depth chronological study of the history of the United States from the twentieth century to the present. The course will be supplemented by documents and literature pertinent to the period of study. Emphasis will be placed upon preparation for the AP Examination.

**U.S. HISTORY 2 CP** 5 CREDITS  
**Prerequisite:** **Teacher recommendation** Full Year  
A continuation of US History 1. A chronological study of the history of the United States from the twentieth century to the present.

**U.S. HISTORY 2** 5 CREDITS  
**Prerequisite:** **Teacher recommendation** Full Year  
This course is a supportive instructional program designed for students with language arts deficiencies. A continuation of US History 1. A chronological study of the history of the United States from the twentieth century to the present.

**AMERICAN GOVERNMENT/CIVICS** 5 CREDITS  
**Prerequisite:** **Grades 10-12** Full Year  
The course will introduce students to the basic principles of our American government. Emphasis will be placed upon the Constitution and current issues with the country.

**CURRENT HISTORY** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
Students will examine the economic, geographic, world, political, and sociological areas of today. Emphasis will be placed upon newspapers and televised news broadcasts.

**ECONOMICS & PERSONAL FINANCE** 2.5 CREDITS  
**Prerequisite:** **Grades 10-12** One Semester  
Students are given a basic understanding of personal finance along with the principles of credit, interest, debt, checking, savings and taxes. Areas to be highlighted include the role of the government, money and banking and comparative economic systems.

**THE GREAT METROPOLIS** 2.5 CREDITS  
**Prerequisite:** **None** One Semester  
Students will be provided with the opportunity to examine the architecture, history, geography, culture and cuisine of the American Metropolis during the early twentieth century. Emphasis will be placed on the various immigrant groups that came to the United States and the contributions they have made.

**HISTORY OF AMERICAN CULTURE** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
An examination of the popular culture of the twentieth and twenty first centuries in the United States. Students will analyze the evolution of music, art, film and entertainment from 1900 to the present, and how these helped shape major movements in American history.

**MODERN GLOBAL CONFLICTS** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
Students will examine situations in today's world that have caused strife among nations. Topics will include The New Europe, conflicts in the Middle East, struggles to keep world peace, human rights and facing the future.

**PEER LEADERSHIP** 5 CREDITS  
**Prerequisite:** **Grade 12, application, teacher recommendation, review** Full Year  
A course which prepares seniors to serve as role models/mentors for freshmen. One day each week will be

designated as a "break-out" day when the seniors work with small groups of freshmen. Problems such as self-esteem, substance abuse and social and cultural issues are addressed. (Practical Art)

**PSYCHOLOGY** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
This course introduces the student to a better understanding of human behavior. Topics such as learning, emotions, coping with frustration, anxiety, the nervous system, motivation, personality disorders and intelligence will be discussed.

**SOCIAL ISSUES IN MODERN AMERICA** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
Students are given a greater insight into current social problems. Students explore the role of the young adult in today's society, campus unrest, crime and racial conflict. Students develop a willingness to actively participate in problems facing us today.

**STREET LAW 1** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
Students will gain a fundamental knowledge of American law and our legal system. The curriculum is designed to provide students with an understanding of their legal rights and responsibilities.

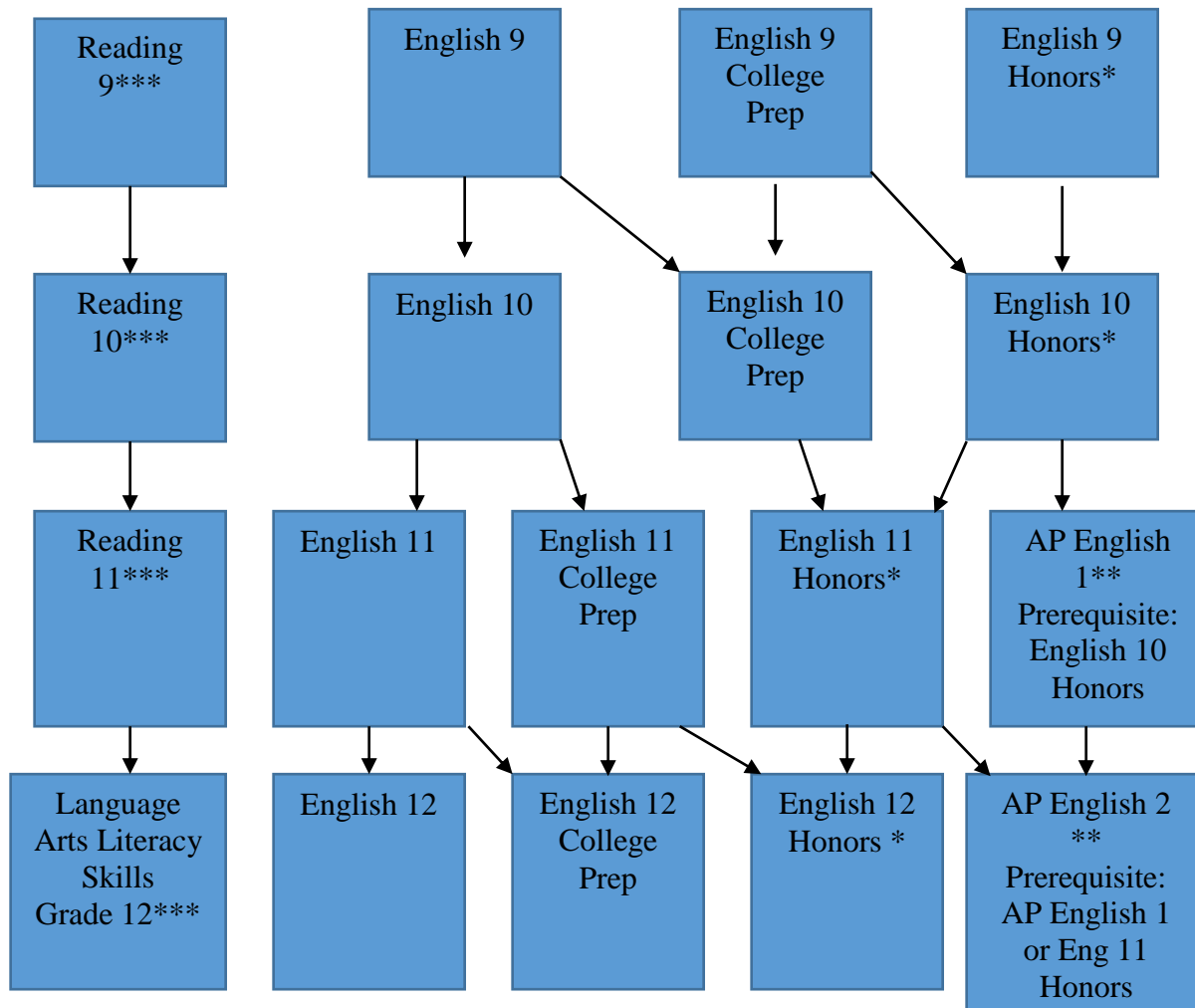
**STREET LAW 2** 2.5 CREDITS  
**Prerequisite:** **Street Law 1** One Semester  
A continuation of Street Law 1. Students will explore First Amendment Rights, particularly freedom of expression and religion. Liability and negligence will also be covered.

**TOMORROW'S TEACHERS** 5 CREDITS  
**Prerequisite:** **Grade 12; must have a B in current English class; teacher approval** Full Year

An Honors course which is a study of the history, development, organization and practice of preschool, elementary and secondary education. Students will learn about the realities of public education and alternatives to public education.

**WORLD GEOGRAPHY** 2.5 CREDITS  
**Prerequisite:** **None** One Semester  
Students will gain a basic understanding of the geography of today's world. An emphasis will be placed on the interrelationship of physical, culture and economic geography. A special emphasis on the United States will also be included.

# ***LANGUAGE ARTS DEPARTMENT***



**\*Honors Level Courses Placement Criteria:**

1. Student must have earned a B- or higher in previous grade Honors Level course or an A- or higher in previous grade CP level course as final grade
2. Teacher Recommendation
3. Completed Application by deadline

**\*\*AP English 1 Placement Criteria:**

1. Student must have earned a final grade of an A- or higher in English 10 Honors
2. Teacher Recommendation
3. Score of 5 or higher on entrance essay exam
4. Application completed by deadline and committed completion of AP exam

**\*\*\*Reading Level Courses** are provided in addition to a student's English course for academic support based on state mandated testing and graduation requirements.

**CHILDREN'S LITERATURE** 2.5 CREDITS  
**Prerequisite:** None One Semester  
Children's literature will be used to explore a variety of genres and give students the opportunity to explore popular titles with a fresh perspective and in depth.

**COMMUNICATION ARTS THROUGH TELEVISION 1** 2.5 CREDITS  
**Prerequisite:** None One Semester  
An introduction to the field of television production that will provide students with an opportunity to develop communication skills related to the medium. Extensive exposure to television production software and camera work. Students will also work on original film projects. (Performing/Practical Art)

**COMMUNICATION ARTS THROUGH TELEVISION 2** 2.5 CREDITS  
**Prerequisite:** CATV 1 One Semester  
The second year of a program designed to empower students with skills related to technical production and effective communication through the medium of television. (Performing/Practical Art)

**COMMUNICATION ARTS THROUGH TELEVISION 3** 2.5 CREDITS  
**Prerequisite:** CATV 2 One Semester  
The third year of a program designed to empower students with skills related to technical production and effective communication through the medium of television. (Performing/Practical Art)

**COMMUNICATION ARTS THROUGH TELEVISION 4** 5 CREDITS  
**Prerequisite:** CATV 3 Full Year  
A full year course designed to empower students in developing and producing a television production by learning camera operation, screen writing, interviewing skills, on camera skills, etc. (Performing/Practical Art)

**CREATIVE WRITING** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
This course is designed for the student who wants to further explore their passion for writing. Skills in written expression and publishing will be explored using mentor texts from a variety of genres.

**DYNAMICS OF COMMUNICATION** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
This course is designed to empower students with skills related to writing and developing effective speeches. Students will explore many examples of highly effective speeches in addition to writing and delivering their own.

**JOURNALISM** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
Students will explore the production and impact of newspapers, periodicals, magazine, etc. on our society as well as develop writing skills. Students will work on a school-based newspaper, EchoLites, as a part of the coursework.

**MONSTERS IN LITERATURE** 2.5 CREDITS  
**Prerequisite:** None One Semester  
Perfect course for students who love the genres of horror, mystery and science fiction. Read and analyze several examples of classic monsters stories and explore the impact and role of the genre on our society.

**MYTHOLOGY** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
This course has students reading, analyzing and exploring mythology as a genre across cultures and throughout time. Examine mythical connections to art, music, religion and pop culture.

**PREPARING FOR THE SAT** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
A must take course for students wanting to prepare for the college entrance exam. Explore reading strategies, vocabulary and writing skills needed to be successful.

**WRITING SUCCESS** 2.5 CREDITS  
**Prerequisite:** None One Semester  
Designed to help students develop writing skills with a concentrated focus on expository skills.

**THEATRE 1** 5 CREDITS  
**Prerequisite:** None Full Year  
Students are introduced to the fundamentals of play production, stage terminology, acting terminology, structure of drama and varieties of drama, through textual reading and class discussion. This introduction provides students with enough understanding of dramatics to enable them to evaluate critically what they read and view. The major emphasis in the classroom is on the actual experience of basic acting techniques. This is accomplished through theatre games and improvisational exercises and, later, preliminary instruction and exercises in stage speech. (Performing Arts)

**THEATRE 2** 5 CREDITS  
**Prerequisite:** Theatre 1 Full Year  
This course is a continuation of Theatre 1. The intent of this course is to widen the student's theatrical scope. Introduction to character analysis, development, and the experience of "new theatre" exercises, provide students with opportunities to become more polished performers. Reading and classroom discussion of the history of drama, stage setting, stage lighting, costuming, and makeup enable students to be more knowledgeable in related areas. (Performing Arts)

**THEATRE WORKSHOP** 5 CREDITS  
**Prerequisite:** Theatre 2 Full Year  
Theatre Workshop is offered to students who have successfully completed Theatre 1 and Theatre 2. Advanced theatre students are offered a great deal of choice and independent study. They are given opportunities to develop characterizations through script and theme analysis and to act as directors of complete stage productions. (Performing Arts)

# **MATHEMATICS DEPARTMENT**

**ALL PLACEMENT CRITERIA LISTED BELOW IS AS OF THE DATE/TIME OF REGISTRATION.** To be eligible to take two math classes concurrently students must meet the criteria for both courses. Students wishing to double up in math should see the supervisor for a waiver. Students wishing to take an AP course must complete an AP Course application. Waivers will not be entertained for AP courses.

## **ADVANCED PLACEMENT CALCULUS AB**

**Prerequisite:** A- in Pre-Calculus OR B in Pre-Calculus Honors; B or higher on Pre-Calculus Quarterly Assessments; teacher recommendation; completed AP Mathematics application 5 CREDITS Full Year

This is a college level course in differential and integral calculus. The course work will help prepare students to follow careers in engineering, physics, mathematics, and to a lesser extent, other science fields. Students should be knowledgeable in Algebra, Plane and Analytic Geometry, and Pre-Calculus before they elect to take AP Calculus.

## **ADVANCED PLACEMENT CALCULUS BC**

**Prerequisite:** B+ or higher in Pre-Calculus Honors; B or higher on Pre-Calculus Honors Quarterly Assessments; teacher recommendation; completed AP Mathematics application 5 CREDITS Full Year

Calculus BC is an extension of Calculus AB rather than an enhancement; common topics require a similar depth of understanding. The course is intended to be challenging and demanding. Broad concepts and widely applicable methods are emphasized. The focus of the course is neither manipulation nor memorization of an extensive taxonomy of functions, curves, theorems or problem types. Thus, although facility with manipulation and computational competence are important outcomes, they are not the core of the course. Technology will be used regularly by students and teachers to reinforce the relationships among the multiple representations of functions, to confirm written work, to implement experimentation, and to assist in interpreting results. Through the use of the unifying themes of derivatives, integrals, limits, approximation and applications and modeling, the course becomes a cohesive whole rather than a collection of unrelated topics. These themes are developed using all the functions listed in the prerequisites.

## **ADVANCED PLACEMENT STATISTICS** 5 CREDITS

**Prerequisite:** A- in Algebra 2 CP OR B in Algebra 2 Honors; B or higher on Algebra 2 Quarterly Assessments; teacher

## **recommendation; completed AP Mathematics application**

The purpose of this course is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes:

- Exploring Data: Describing patterns and departures from patterns
- Sampling and Experimentation: Planning and conducting a study
- Anticipating Patterns: Exploring random phenomena using probability and simulation
- Statistical Inference: Estimating population parameters and testing hypotheses

Students who successfully complete the course and examination may receive credit and/or advanced placement for a one-semester introductory college statistics course.

## **ALGEBRA 1-9 CP** 5 CREDITS

**Prerequisite:** Completion of Algebra 1A Full year  
This course is also known as Algebra 1B. Students will continue their study of the elementary concepts of Algebra. The second half of the Algebra 1 curriculum will be covered with students having completed the first half of the curriculum the previous year in Algebra 1A. Students will gain an understanding of the concepts of number and space with an emphasis on the application of mathematics through a study of word problems.

## **ALGEBRA 1-9** 5 CREDITS

**Prerequisite:** Grade 8 placement Full Year  
This is a full year Algebra 1 course. This course will introduce students to the elementary concepts of Algebra. The student will gain an understanding of the concepts of number and space. The application of mathematics through a study of word problems is emphasized.

## **ALGEBRA 2** 5 CREDITS

**Prerequisite:** Plane Geometry Full Year  
This course is a continuation of Algebra 1. Students will be introduced to more advanced concepts of algebra and will increase their understanding of the concepts of numbers and space. Applications of mathematics through a study of word problems are discussed at various times throughout the course.

## **FUNDAMENTALS OF COLLEGE** 5 CREDITS

**ALGEBRA**  
**Prerequisite:** Successful completion of Geometry; open to students in Grades 11 and 12 Full Year

This course is designed to strengthen the algebraic skills of students. There will be a focus on the applications of the mathematical concepts and problem solving. Students who take this class will reinforce mathematic concepts and gain skills that will help them on college entrance exams and prepare them for higher level mathematics. **This course is being offered in conjunction with Middlesex County College. If you choose to obtain 4 college credits for this course, you will be required to pay a nominal fee to the college for obtaining these credits.**



**ALGEBRA 2 HONORS** 5 CREDITS

**Prerequisite:** **A- in Algebra 1 and Geometry Full Year OR B+ in Geometry Honors; B or higher on Geometry Quarterly Assessments; teacher recommendation**

This course is a fast-paced extension of Algebra 1, with very limited review of Algebra 1 key concepts. Students will use more advanced concepts of algebra and will solidify their understanding of the concepts of numbers and space. Applications of mathematics through a study of word problems are emphasized many times throughout the course. Assignments will include more challenging problems than in the non-honors course. Students will be introduced to logarithmic and exponential equations, conic sections, trigonometry, and trigonometric functions. The use of graphing calculators will be emphasized and mandatory.

**ALGEBRA 3 AND TRIGONOMETRY** 5 CREDITS

**Prerequisite:** **C- or better in Algebra 2 Full Year**

This elective course is designed for students who, while interested in mathematics, have no desire or need for the standard course in Pre-Calculus. The material covered will include some topics from Algebra, factors, determinants, synthetic division, as well as topics from Trigonometry, functions, conic sections.

**CALCULUS** 5 CREDITS

**Prerequisite:** **C in Pre-Calculus and teacher Full Year recommendation is required**

This course is a foundation course in Differential and Integral Calculus. The course will prepare students who are planning to take a college course in Calculus to have a basic understanding of the concepts included which will help them to achieve competency when enrolled at the college level. This course will emphasize the practical applications of the Calculus. **This course is being offered in conjunction with Middlesex County College. If you choose to obtain 4 college credits for this course, you will be required to pay a nominal fee to the college for obtaining these credits.**

**MATH 104: ALGEBRA LAB** 5 CREDITS

**Prerequisite:** **Current enrollment in Algebra Full Year 1-9 or Algebra 1-9 CP AND/OR standardized testing results**

This course is designed to be a supplemental course to the Algebra 1 program. Topics from Algebra 1 will be covered with an emphasis on problem solving. Students will receive an intensive review of the basic skills in preparation of the state mandated PARCC Assessment.

**MATH 204: GEOMETRY LAB** 5 CREDITS

**Prerequisite:** **Current enrollment in Plane Full Year Geometry; standardized test scores or district criteria**

This course is designed to be a supplemental course to the Plane Geometry program. Topics from Plane Geometry will be covered with an emphasis on problem solving and algebraic reasoning. Students will receive an intensive review of the basic skills in preparation of the state mandated PARCC Assessment.

**MATH 404 A** (Fall) 2.5 CREDITS

**MATH 404 B** (Spring) 2.5 CREDITS

**Prerequisite:** **Standardized test scores**

Students are not permitted to elect these courses. They are designed for those students who have been identified by state mandated tests and have not attained a graduation test requirement as defined by the New Jersey Department of Education. These courses will emphasize and reinforce the five clusters of mathematics identified in the Common Core Standards for Mathematics. Every student will be involved in experiences addressing all of these expectations of each of the four content clusters. Every student will also be presented with open-ended questions that will explore their problem solving strategies and they must be able to communicate their solutions in written form.

**PLANE GEOMETRY** 5 CREDITS

**Prerequisite:** **Algebra 1 Full Year**

This course includes an introduction to basic geometric concepts and an in-depth study and classification of lines, triangles, other polygons and circles. The ideas of proof, including emphasis on congruence and similarity, are stressed.

**PLANE GEOMETRY HONORS** 5 CREDITS

**Prerequisite:** **B+ in Algebra 1 Honors OR Full Year A- in Algebra 1-9 CP; B or higher on Quarterly Assessments; teacher recommendation**

This course begins with an introduction to basic geometric concepts and an in-depth study and classification of lines, triangles, other polygons and circles. The ideas of proof, including emphasis on congruence and similarity, are stressed. In addition, students will explore concepts related to three dimensional figures. Students will complete more extensive units on the surface area and volume of prisms, cylinders, pyramids and cones. They will study the concepts of congruence and similarity of solids and will examine equations relating to statistics and geometric models of motion. This course is pending Board approval.

**PRE-CALCULUS** 5 CREDITS

**Prerequisite:** **B in Algebra 2 CP OR Full Year successful completion of Algebra 3/Trigonometry; teacher recommendation**

In this course, students will gain an understanding of the properties of the trigonometric functions and their applications. In addition, students will gain an understanding of Algebra in the solution and classification of the concepts of functions and the conic sections. There will be a review of the fundamentals of Algebra and Geometry which are necessary for understanding the concepts of Trigonometry and Pre-Calculus.

**PRE-CALCULUS HONORS** 5 CREDITS  
**Prerequisite:** A- in Algebra 2 CP OR B in Full Year  
Algebra 2 Honors; B- on the  
Algebra 2 Quarterly Assessments;  
teacher recommendation

In this course, students will gain an understanding of the properties of the trigonometric functions and their applications. In addition, students will gain an understanding of Algebra in the solution and classification of the concepts of functions and the conic sections. There will be a review of the fundamentals of Algebra and Geometry which are necessary for understanding the concepts of Trigonometry and Pre-Calculus. In addition, students will expand their study of limits to include trigonometry functions, investigate vectors and sequences, and examine polar coordinates and parametric equations. A summer project on Algebra review is to be completed prior to the beginning of school.

**PREPARING FOR THE SAT** 2.5 CREDITS  
**Prerequisite:** Grades 10-12 One Semester  
Please see PREPARING FOR THE SAT in the Language Arts Department section.

**PROBABILITY AND MATRIX ALGEBRA HONORS**  
**Prerequisite:** B- in Algebra 5 CREDITS  
3/Trigonometry OR C in Full Year  
Pre-Calculus; teacher  
recommendation

This course will introduce the student to a study of the laws of chance. The student will study certain elementary probability models and will deal with problems involving chance regularities and fluctuations. Students will study the relationship of the probability models to the real world. Matrix Algebra is a study of an algebraic structure similar to that studied by the student in Elementary Algebra. Students preparing for work in almost every field will find a study of Probability and Matrix Algebra useful to them.

## ***MUSIC DEPARTMENT***

**BAND** 2.5 CREDITS/One Semester  
5 CREDITS/Full Year

**Prerequisite:** Instrumental Proficiency  
This is a course for students with previous instrumental experience. Students are expected to perform at various events throughout the school year. (Performing Art)

**MIXED CHOIR 101** 2.5 CREDITS/One Semester  
**Prerequisite:** None 5 CREDITS/Full Year  
Geared for the beginning ensemble singer. Each student must participate in at least one after-school rehearsal and an evening performance per semester. (Performing Art)

**MIXED CHOIR 201** 2.5 CREDITS/One Semester  
**Prerequisite:** Mixed Choir 101 5 CREDITS/Full Year  
or audition

A continuation of Mixed Choir 101. Emphasis will be placed upon improving vocal technique, sight reading skills and other

fundamentals at an intermediate level. Each student must participate in at least one after school rehearsal and an evening performance per semester. (Performing Art)

**MIXED CHOIR 301** 2.5 CREDITS/One Semester  
**Prerequisite:** Mixed Choir 201 5 CREDITS/Full Year  
or audition

In order to enroll in this course, students must have demonstrated a high talent/dedication level. Independent singing will be encouraged, and an advanced repertoire will be developed. Each student must participate in at least one after school rehearsal and an evening performance per semester. (Performing Art)

**MIXED CHOIR 401** 2.5 CREDITS/One Semester  
**Prerequisite:** Audition 5 CREDITS/Full Year  
Students will develop skills as a soloist or small group specialist. Repertoire will include Broadway, Jazz, Swing, Pop, Classical and Folk. Students will utilize state of the art technology to analyze, record and create. Each student must participate in all after school choral events. (Performing Art)

**MUSIC TECHNOLOGY 1** 2.5 CREDITS  
**Prerequisite:** Interview with instructor; One Semester  
Basic Music Theory Exam

An introduction to music computer software. The ability to play an instrument is not required. Skills include composing, arranging and recording. Keyboard skills are a plus but not necessary. (Performing/Practical Art)

**MUSIC TECHNOLOGY 2** 2.5 CREDITS  
**Prerequisite:** Music Technology 1 One Semester  
Designed for advanced music computer users. Students will participate in cross curricular events such as Theatre, Film, Chorus, Band, etc. Students will receive training in sound equipment and basic recording techniques. (Performing/Practical Art)

**RECORDING AND ENTERTAINMENT PRODUCTION**  
**Prerequisite:** Grades 11-12; cumulative B 5 CREDITS  
average; interview with Full Year  
instructor

A cross curricular course designed to introduce students to the different aspects of music/entertainment and record production. Students will join Fedora Productions, a mock entertainment company, and will increase their awareness of intellectual-property rights. Students will delve into Human Resources, Accounting/Finance, Artist/ Repertoire Development, Legal, Marketing, Graphic Design, Engineering and more. Students do not need to be musicians to participate in the course. (Performing/Practical Art)

# ***PHYSICAL EDUCATION DEPARTMENT***

## **PLEASE NOTE:**

The format for Health and Physical Education requires students to pass the following:

- two (2) semester courses of Health (Health 1S and 2S) **and**
- six (6) semester courses of Physical Education (PE1S, PE2S, PE3S, PE4S, PE5S, and PE6S),  
Basic Fitness and Advanced Fitness

Note: "S" signifies a semester course in the titles of the revised Health and Physical Education courses.

## **PHYSICAL EDUCATION** 2 or 2.5 CREDITS

**Prerequisite:** None One Semester

The Physical Education program consists of a combination of activity, instruction, and testing with the emphasis placed on participation. A wide variety of activities are taught, ranging from team and individual sports to co-educational dance.

## **HEALTH 1S** 2 or 2.5 CREDITS

**Prerequisite:** None One Semester

One marking period of the course spans the male and female reproductive anatomy, pregnancy, the birth process, sexually transmitted disease, alcohol, tobacco, drugs and nutrition. One marking period of the course covers material necessary to pass the New Jersey State Driver's Examination. Additional content includes the function of the automobile, highway safety, and local driving situations.

## **HEALTH 2S** 2 or 2.5 CREDITS

**Prerequisite:** Health 1S One Semester

The Family Living portion aims to provide an understanding of personality development and mental health. The second portion of the course covers a wide range of health related topics designed to help the high school student plan his/her lifestyle after leaving home and family.

## **BASIC CPR, FIRST AID AND INJURY MANAGEMENT**

**Prerequisite:** B- in Physical Education, 2.5 CREDITS  
Grades 11-12 One Semester

This course is offered as an elective semester course to junior and senior students who have a minimum grade of 80% or better. It will provide students with a CPR and First Aid Certification, as well as a basic understanding of prevention, evaluation, and care of sports related injuries. This class will include, but not be limited to, activity and practical classroom sessions. It is offered in addition to the regular Physical Education and Health curriculum. (Practical Art)

## **BASIC FITNESS** 2.5 CREDITS

**Prerequisite:** B- in Physical Education One Semester  
Grades 11-12

This course is designed to introduce students to the benefits of daily fitness and well-being. It will expose students to strength training, cardiovascular fitness, flexibility and agility routines, and nutritional balance. Students will work at a pace and level

suitable to their individual needs, monitoring and evaluating their progress through the course.

## **ADVANCED FITNESS** 2.5 CREDITS

**Prerequisite:** Completion of Basic Fitness; Grades 11-12 One Semester

This course is designed for the serious fitness advocate who is looking to improve his/her fitness workout to more technical levels. Students will develop individual workout routines, explore new and innovative methods of physical development, and challenge themselves in all areas of fitness to meet individual needs and goals.

# ***SCIENCE DEPARTMENT***

All science courses include laboratory experiences.

To be eligible to enroll in two 6-credit lab sciences, students must have a semester average of A in their current Science, Math and LAL courses. Recommendations by teachers for students who would like to take two 6-credit lab sciences will be made based on satisfying the prerequisites for both courses through the supervisor.

Waivers will not be entertained for AP Biology, AP Chemistry, AP Environmental Science or AP Physics.

## **ADVANCED PLACEMENT BIOLOGY** 6 CREDITS

**Prerequisite:** Semester 1 average of A in current SCIENCE AND LAL courses; B+ in Biology Honors OR A in Biology CP(6); taking or completed Chemistry CP (6) or higher; completed AP Science application Full Year

Advanced Placement Biology is a college level course that is taught at a fast pace. Students taking this course should be responsible and committed to spending extensive time and effort in study. Some topics require independent study. The course is designed to prepare students for the AP exam and uses the College Board AP Biology syllabus for topics and laboratories. Additional activities and laboratories may be included to enrich the course. Students are required to do independent research and oral presentations. Some of the areas covered are Biochemistry, Cytology, Evolution and Genetics, Plant Physiology and Anatomy, Mammalian Anatomy, and Ecology. An independent study project will be completed in the summer prior to the course. Students are encouraged to take the AP examination.

## **ADVANCED PLACEMENT CHEMISTRY** 6 CREDITS

**Prerequisite:** B+ in Chemistry Honors OR A in Chemistry CP (6); Semester 1 average of A or higher in current MATH AND LAL course; B+ in Algebra 2 CP or higher; completed AP Science Full Year

### **application**

Advanced Placement Chemistry is designed for the student who has a strong ability in science and mathematics and who has exhibited an interest in acquiring an in-depth knowledge of chemistry. The course offers the student the in-depth scientific background needed to pursue a career in science. An independent study project will be completed in the summer prior to the course. Students are encouraged to take the AP Chemistry examination.

### **ADVANCED PLACEMENT ENVIRONMENTAL SCIENCE**

**5 CREDITS**  
**Full Year**

**Prerequisite:** Semester 1 average of A in current SCIENCE AND LAL courses; B+ in Biology Honors OR A in Biology CP(6); B+ in Algebra 2 CP or higher; teacher recommendation; completed AP Science application

The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them.

### **ADVANCED PLACEMENT PHYSICS**

**6 CREDITS**  
**Full Year**

**Prerequisite:** A in Physics OR B+ in Physics Honors; B+ in Pre-Calculus; concurrent enrollment in Calculus or higher; teacher recommendation; completed AP Science application

This course follows an Advanced Placement curriculum specifically designed to be a college-like course that follows successful completion of CP Physics. The course covers all traditional fields of physics including mechanics, waves, sound, light, optics, electricity and magnetism. This is a mathematically rigorous study of Physics where students will need an understanding of Algebra and Trigonometry to succeed in this course. It is anticipated that students will take the AP Physics Level B examination in May. An independent study project will be completed in the summer prior to the course.

### **ASTRONOMY**

**2.5 CREDITS**  
**One Semester**

**Prerequisite:** C in Biology or Environmental Science; Grades 11-12

Astronomy is a course designed to give students an awareness of one's efforts to understand the universe. Students will learn how one's understanding of the heavens has changed with the advance of space technology. Hands-on activities will be an integral part of the course.

### **BIOLOGY HONORS**

**6 CREDITS**  
**Full Year**

**Prerequisite:** Semester 1 average of A- in General Science CP and LAL courses; Quarterly Assessment grades of A- or higher in current science course; teacher recommendation; concurrent enrollment in Geometry Honors or higher

This lab course is designed for students who have a strong interest in science and the motivation to work hard throughout the school year. Biology Honors includes a more intensive investigation of the Biology CP course topics and is presented at a faster pace. In addition to the course concepts and laboratory work, emphasis will be on higher level thinking skills, writing assignments, oral reports and projects. The curriculum emphasizes topics in molecular biology that include biochemistry, ecology, cytology, genetics, taxonomy and evolution. The weekly two-period lab class focuses on the development of laboratory skills and problem solving through experimentation and student-centered, hands-on activities. All students in New Jersey who are enrolled in a first year biology course are required to take the End of Course Biology Test.

### **BIOLOGY CP**

**6 CREDITS**  
**Full Year**

**Prerequisite:** B- in General Science AND in current LAL course; teacher recommendation; concurrent enrollment in Geometry

College Preparatory Biology lab course is designed to offer students a wide scope of experiences in Biological Science. The curriculum emphasizes topics in Molecular Biology that include Biochemistry, Ecology, Cytology, Genetics, Taxonomy and Evolution. The weekly two-period lab class focuses on the development of laboratory skills and problem solving through experimentation and student-centered, hands-on activities. All students in New Jersey who are enrolled in a first-year Biology course are required to take the End of Course Biology Test. This course contains some dissections\*.

### **BIOLOGY CP**

**5 CREDITS**  
**Full Year**

**Prerequisite:** Students not meeting requirements for above will be placed in Biology CP (5)

The Biology lab course is designed primarily for students who have difficulty with math and science. The course will offer a sequence of laboratory experiences that will parallel topics discussed in class. The Biology course will cover the same major topics that are presented in CP Biology, but with appropriately less rigor in terms of detail and amount of additional topics covered. All students in New Jersey who are enrolled in a first year Biology course are required to take the End of Course Biology Test.

### **CHEMISTRY HONORS**

**6 CREDITS**  
**Full Year**

**Prerequisite:** A- or higher in Biology Honors; Quarterly Assessment grade of A- or higher in current science course; B in Geometry Honors OR A in Plane Geometry; teacher recommendation; concurrent

**enrollment or completion of  
Algebra 2 CP or higher**

Chemistry Honors is designed for students who have a strong interest in science and the motivation to work hard throughout the school year. Chemistry Honors includes a more intensive investigation of the Chemistry CP course topics and is presented at a faster pace. In addition to the course concepts and laboratory work, emphasis will be on higher level thinking skills, writing assignments, oral reports and projects. The curriculum emphasizes topics in inorganic chemistry, including atomic structure, chemical bonding, stoichiometry, acids and bases, and gas laws. The weekly two-period lab class focuses on the development of laboratory skills and problem-solving through experimentation and student-centered, hands-on activities. In addition to the numerous laboratory experiences there is an emphasis on problem-solving, physical and mathematical modeling, research methods and experimental techniques. Success in this course requires students to have a strong foundation in algebra.

**CHEMISTRY CP** 6 CREDITS  
**Prerequisite:** **B- in Biology CP (6) OR A- in Biology (5); B- in current Math course; teacher recommendation; concurrent enrollment in Algebra 2** Full Year

College Preparatory Chemistry provides students the opportunity to acquire a solid foundation of chemical principles and concepts. The year is devoted to topics in inorganic chemistry, including a foundation based on formula writing, the balancing of equations, stoichiometry, acids and bases, and gas laws. In conjunction with the course content, a laboratory sequence is offered. This sequence parallels the text and affords the opportunity to experience first-hand not only the analyses and problem solving discussed in class, but also the chemical techniques associated with the course. The weekly two-period lab class focuses on the development of laboratory skills and problem solving through experimentation and student-centered, hands-on activities. Success in this course requires students to have a foundation in Algebra.

**CHEMISTRY CP** 5 CREDITS  
**Prerequisite:** **Completion of Algebra 1 and Biology** Full Year

The Chemistry course is designed primarily for students who have difficulty with math and science. The course will offer a sequence of laboratory experiences that will parallel topics discussed in class. The Chemistry course will cover the same major topics that are presented in Chemistry CP (6 credits), but with appropriately less rigor in terms of detail and mathematical emphasis.

**ENVIRONMENTAL SCIENCE** 5 CREDITS  
**Prerequisite:** **For Grades 11-12 students, successful completion of Biology; For Grade 9 students, successful completion of Middle School Science** Full Year

Environmental Science is a lab science which acquaints the students with the earth: its structure, its resources and man's impact on its sustainability. The Geology component of the

course includes the investigations of the geological timetable, plate tectonics, land and water formations, earthquakes and volcanoes, among other topics. The ecological component includes population, conservation and environmental health. The unit on weather includes meteorology and climatology.

**FOOD SCIENCE** 2.5 CREDITS  
**Prerequisite:** **Grades 11-12** One Semester  
Semester lab elective that incorporates nutrition, food processing techniques and procedures. Includes the applications of the science concepts and principles such as chemical reactions, physical and chemical properties of food, role of food preservatives, polymer denaturation and food spoilage. Career awareness and planning for success in the food industry/research development/FDA/Hospitality industry.

**FORENSIC SCIENCE** 2.5 CREDITS  
**Prerequisite:** **B in Biology CP or higher** One Semester  
Forensic Science is a lab science elective in which students study and use scientific concepts and technologies related to the investigation of a crime. In this course, students will apply the techniques that professionals use to identify and collect evidence, analyze and compare it, and use the results to locate criminal perpetrators. The course will take you from the crime scene to the laboratory to the courtroom. It should be noted that many criminal acts are, by their very nature, violent. This course is not designed to specifically focus on crimes of a graphic or sexual nature; however, in an effort to provide an accurate and realistic perspective, certain aspects of such behaviors may be unavoidable. In this course you'll learn the step by step procedures for analyzing hair, fiber, fingerprints, chemicals, and blood stains; testing for drugs and alcohol; examining DNA samples; and much more. You'll also learn how to use specialized forensic equipment, reconstruct a crime scene, and prepare a lab report for presentation in court.

**HUMAN ANATOMY, PHYSIOLOGY AND DISEASE** 2.5 CREDITS  
**Prerequisite:** **B- in Biology CP; Grades 11-12** One Semester

Human Anatomy, Physiology and Disease is a lab course in Human Biology designed to give students an awareness of the interrelationships between the human body and its physical and social environments. In addition to the traditional anatomy and physiology which is covered to provide background, topics covered include the impact on the human body of diseases and disorders of biotechnology of drugs (prescription and otherwise), and of nutrition. How all of the above can impact on the next generation is examined. This course provides the opportunity to learn about diagnostic tests, ("blood work" to CAT scans and ultra sound scans), and treatments (by-pass heart surgery to radiation). This course contains some dissections.\*

**MARINE BIOLOGY** 2.5 CREDITS  
**Prerequisite:** **B- in Biology** One Semester  
Marine Biology, a lab science, is an introduction for students interested in pursuing this area of study in college or to gain an understanding of the marine environment. The "hands on" course covers the understanding of the oceans, identification and classification of marine animals and plants, environmental factors, marine habitats, water analysis, and human interaction and conservation. Students will participate in laboratory

activities, field trips and specimen dissections.

### **PHYSICS HONORS**

6 CREDITS

**Prerequisite:** Semester 1 average of A- in current science course; Quarterly Assessment grades of A- or higher in current science course; B+ in Algebra 2 Honors OR A in Algebra 2 CP; teacher recommendation; concurrent enrollment or completion of Pre-Calculus or higher Full Year

Honors Physics is an inquiry based course designed to expand on the principles of how and why the world around us works. The course is designed to find practical applications of physics through experiments, data analysis, problem solving, projects, and discussions with an emphasis on mathematical applications. Students will investigate topics of motion, force, energy, waves, sound, light, and electricity & magnetism. This course is highly recommended for those students considering a career in science or engineering. Math intensive, Pre-Calculus infused within the context of the Physics content.

### **PHYSICS 11**

6 CREDITS

**Prerequisite:** Open to students in Grades 11-12; semester average of B or higher in Chemistry CP or Chemistry Honors; taking or completed Algebra 2 CP or Algebra 2 Honors; teacher recommendation Full Year

This Physics course focuses on the application of concepts related to matter and energy through various laboratory experiences. This course will focus on and implement the use of Algebra and Trigonometry in solving problems related to Physics. In the lab, students are acquainted with the collection and analysis of data. Topics include motion and forces, vectors, work and energy, heat, electricity, electromagnetism, waves, sound, light and Modern Physics.

### **PHYSICS 9**

5 CREDITS

**Prerequisite:** Open to students in Grade 9; semester grade of B or higher in current Middle School Science course; semester grade of B- or higher in Algebra 1; teacher recommendation Full Year

Physics is the mathematical study of matter and energy at the most basic level. The application of concepts will be developed through demonstrations, real-world applications, problem-solving, and experiments. In the lab, students are acquainted with the collection and analysis of data. This course is focused on the use of Algebra 1 in evaluating problems and investigations in Physics. Topics include Mechanics, Matter, Energy, Light and Sound.

### **SCIENCE IN SOCIETY: LIFE SCIENCE EDITION**

**Prerequisite:** Grades 11-12 2.5 CREDITS  
One Semester

In this hands-on science laboratory course, students will

explore the strange and wonderful aspects of biology. Scientific concepts learned in previous science classes will be applied to develop a deeper understanding of science in our everyday lives. Students will practice the scientific method by designing their own experiments and analyzing the resulting data. Students will distinguish between fact and opinion while deciding where they stand on controversial scientific issues that affect the public. Topics are determined based upon student and instructor interest and may be based, in part, on current events. Topics will inevitably include branches of brain science due to its popularity with students.

### **SCIENCE IN SOCIETY: ENERGY & TECHNOLOGY EDITION**

2.5 CREDITS

**Prerequisite:** Grades 11-12 One Semester  
This class begins with a study of flames and energy through a variety of hands-on experiments that utilize the scientific method. After that, topics are selected by students in the class by a vote or survey. Scientific concepts learned in previous science classes will be applied to develop a deeper understanding of science and technology in our everyday lives. Students will practice the scientific method by designing their own experiments and analyzing the resulting data. Students will distinguish between fact and opinion while deciding where they stand on controversial scientific issues that affect the public. Topics will inevitably include engineering and building of structures, such as towers and bridges, due to its popularity with students.

### **DISSECTION OPTION STATEMENT**

\*Participation in hands-on science is important to learning science, and dissections are an important component of life science education. Dissections are recommended study methods in life science courses. Animal materials are used respectfully and for the purpose of meeting course objectives.

In cases where parents, or students 18 years of age or older object to dissection, teachers will provide alternatives to actual dissections. These alternatives may include, but are not limited to: computer simulations, media presentations, transparencies, textbook overlays, and reading/research.

**If a parent chooses not to have his/her son/daughter take part in dissections, please notify the student's teacher in writing within two weeks of the start of class.**

## ***TECHNOLOGY DEPARTMENT***

All courses involve hands-on activities and are vocational in nature. Safety glasses **MUST** be worn in areas of hazardous activity. A daily cleanup is required. Infractions will result in disciplinary action and/or removal from the activity with a loss of credit. Costs attributed to materials used and/or lost/broken tools must be paid prior to the last examination. (Practical Art)

### **AUTO TECHNOLOGY 1**

2.5 CREDITS

**Prerequisite:** None One Semester  
Students will be introduced to the components of the

automobile. Maintenance, emergencies, tune ups and the internal combustion engine are stressed. (Practical Art)

**AUTO TECHNOLOGY 2** 5 CREDITS  
**Prerequisite:** Auto Technology 1 and teacher recommendation Full Year

A continuation of Auto Tech 1. Students will learn advanced skills, including the use of computers and sensors. Auto body repairs, as well as mechanical procedures, are introduced. (Practical Art)

**AUTO TECHNOLOGY 3** 5 CREDITS  
**Prerequisite:** Auto Technology 2 and teacher approval Full Year

A continuation of Auto Tech 2. Individualized instruction in student selected projects. Students perform procedures similar to those in established auto repair shops. (Practical Art)

**ENGINEERING DRAWING** 5 CREDITS  
**Prerequisite:** None Full Year  
A basic course in mechanical drawing skills. Line weight, identification, dimensioning techniques, three-view drawing, and basic blueprint reading are covered. Computer aided drafting is an integral component. (Practical Art)

**ELEMENTS OF DESIGN** 5 CREDITS  
**Prerequisite:** B in Engineering Drawing Full Year  
A review of drafting skills and geometric construction. Self-expression is provided through the design of a student-oriented project. Activities will be centered on computer generated drawings. (Practical Art)

**ARCHITECTURAL DESIGN** 5 CREDITS  
**Prerequisite:** B in Engineering Drawing Full Year  
House construction components are studied in this course. Footings, foundations, framing and roof construction are examined. Students develop the ability to read and interpret drawings prepared by others. Computer aided drafting equipment will be utilized. (Practical Art)

**ADVANCED ARCHITECTURAL DESIGN** 5 CREDITS  
**Prerequisite:** Architectural Design Full Year  
An advanced continuation of Architectural Design. Students will work on floor plans, foundation plans, plot plans, electrical plans, plumbing plans, front, side and rear elevations, interior details, stair details and wall sections. (Practical Art)

**ROBOTICS** 5 CREDITS  
**Prerequisite:** None Full Year  
Students will learn the basics of the designing, creating and programming of robots. Mathematical and scientific skills will be reinforced. Conditions to modern, real world issues will be stressed. There will be various student competitions throughout the course. (Practical Art)

**WOOD 1** 2.5 CREDITS  
**Prerequisite:** None One Semester  
An introductory course in woodworking skills. Hands on techniques in hand/power tool operation through construction of projects is stressed. (Practical Art)

**WOOD 2** 5 CREDITS  
**Prerequisite:** Wood 1 and teacher recommendation Full Year

A continuation of Wood 1. Development of entry level skills within the carpentry trade. Opportunities to develop skills for personal use and to make a successful transition from school to the workplace will be emphasized. (Practical Art)

**WOOD 3** 5 CREDITS  
**Prerequisite:** Wood 2 and teacher recommendation Full Year

A continuation of Wood 2. Advanced construction techniques related to cabinetry and residential and commercial constructions are highlighted. Specific areas such as kitchens, bathrooms and remodeling will be emphasized as well. (Practical Art)

## ***WORLD LANGUAGE DEPARTMENT***

**SPANISH 1 / FRENCH 1** 5 CREDITS  
**Prerequisite:** None Full Year

Students will master the basic skills of listening, speaking, reading and writing in the target language. An appreciation of the culture, mores and civilization of the language is also introduced.

**SPANISH 2 / FRENCH 2** 5 CREDITS  
**Prerequisite:** Completion of the Level 1 course Full Year

A continuation of level 1. A reinforcement of the skills learned in the level 1 course, including an emphasis on the development of fluency in the language.

**SPANISH 3 / FRENCH 3** 5 CREDITS  
**Prerequisite:** B in Level 2; teacher recommendation; B+ for semester one Full Year

A continuation of level 2. A further development of aural, oral and reading skills. Literary short stories and novellas are introduced.

**SPANISH 4 / FRENCH 4** 5 CREDITS  
**Prerequisite:** B in Level 3; teacher recommendation; B+ for semester one Full Year

A continuation of level 3. Conversation and an appreciation of literature in the target language are emphasized.

**ADVANCED PLACEMENT SPANISH** 5 CREDITS  
**Prerequisite:** B in Level 4 and teacher recommendation Full Year

Students who have indicated a level of fluency will be eligible for the course. The curriculum is geared to the development of the advanced language skills necessary to prepare for the Advanced Placement Examination.

# ***APEX LEARNING***

## **APEX LEARNING: INDIVIDUAL ONLINE COURSES FOR CREDIT**

**Prerequisite: Grade 12 (see below for prerequisites for specific courses)**

Apex Learning offers rigorous, standards-based online courses that meet high school graduation requirements. These courses provide students the option to take one of their courses virtually to meet the occasional scheduling conflict, or to provide an online course in a subject area not currently offered in the traditional classroom setting. Apex Learning offers a comprehensive course catalog and subject certified teachers. The following courses are currently available:

Semester Courses: 2.5 Credits    Full Year Courses: 5 Credits

AP Government and Politics    German

AP Macroeconomics\*    Latin

AP Microeconomics\*    Mandarin Chinese

AP Psychology\*\*

College and Career Prep

Media Literacy

Multicultural Studies

Skills for Health

Sociology

\*Successful completion of Economics is the prerequisite for AP Macroeconomics and AP Microeconomics.

\*\* Successful completion of Psychology is the prerequisite for AP Psychology.